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ABSTRACT

In this document the National Advisory Council on Supplementary Centers and Services presents its Sixth Annual Report on the status of Title III of the Elementary and Secondary Education Act ESEA). Five recommendations for carrying forward and strengthening ESEA Title III are presented: a) that it be extended for a minimum of four years; b) that funding for ESEA Title III be specifically earmarked at a level sufficient to meet those identified educational needs within the states that call for innovative solutions; c) that the portion of ESEA containing the formerly designated Title III be entitled "Innovation and Improvement"; d) that an adequate national system be established to collect, evaluate, and disseminate information and materials on innovation in education; e) that funds be made available for an in-depth look at the whole of Title III with the focus on "Improving Education through Innovation." The remaining, and largest section, of the document is entitled "What's Working in Title III." It contains a brief essay, critiques by six educators of projects selected by each state validation team, and descriptions of the validated projects. The list of all 107 projects validated in 1973 appears in the appendix. (JA)

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SHARING EDUCATIONAL SUCCESS

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Sixth Annual Report
National Advisory Council
on Supplementary Centers and Services,
March 1974

SP 007 947

"Sharing Educational Success" is the name given to an effort by the ESEA Title III community to share in the identification, validation and dissemination of innovative educational practices. It is also the theme of this year's Annual Report.

March 25, 1974

Dear Mr. President:

The National Advisory Council on Supplementary Centers and Services presents its Sixth Annual Report on the status of Title III of the Elementary and Secondary Education Act.

Our recommendations are brief and center around the need to continue and to improve Title III. As the portion of ESEA providing local school districts with the seed money they need to find innovative answers to educational problems, Title III has proved its worth.

Although much has been accomplished since Title III was introduced in 1965, more attention needs to be paid to disseminating information on Title III projects that work. Part of our report deals with that very theme. We cite 107 exemplary projects that have been identified and validated for the use of other school districts. The projects provide exemplary models in areas as diverse as special education, teacher/staff development, early childhood education and individualized instruction.

In addition to validation by teams of experts provided through a state-coordinated effort, the Council asked noted educators to assess the significance of the projects against the background of their own broad experience. Their views are presented in this report. They stress the importance of providing greater visibility and practical use of successful Title III projects.

During the past year, the Title III community contributed greatly to the identification of educational practices. Increased emphasis should now be given to the development of positive strategies that bring school districts with educational needs into contact with successful projects. Only when this important step is performed will Title III fulfill the intent of the Congress.

We have only skimmed the surface of identifying the wealth of resources to be found in Title III. Therefore, the Council strongly recommends that funds be made available to take an in-depth look at the whole of Title III with the focus on "Improving Education Through Innovation." We could then use the experience gained in eight years of Title III operation to guide our course for the future.

Respectfully submitted,

Arthur Ballantine

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Schools and society must take on a new view of education—what kind of a person is needed in a world of rapid change and how can the schools most effectively contribute to the development of those characteristics?

—M. Frances Klein

Recommendations

Recommendations to the President and the Congress for carrying forward and strengthening the role of innovation in education:

1. That Title III of the Elementary and Secondary Education Act be extended for a minimum of four years.
2. That funding for ESEA Title III be specifically earmarked at a level sufficient to meet those identified educational needs within the states that call for innovative solutions.
3. That the portion of the Elementary and Secondary Education Act containing the formerly designated Title III be entitled "Innovation and Improvement."
4. That an adequate national system be established to collect, evaluate and disseminate information and materials on innovation in education.
5. That funds be made available for an in-depth look at the whole of Title III with the focus on "Improving Education Through Innovation."

Recommendations

Recommendation No. 1

THAT Title III of the Elementary and Secondary Education Act be extended for a minimum of four years.

Title III is meeting the intent of Congress by funding innovative projects in response to the education problems identified by local school districts. Title III is based on the principle that a legitimate national interest exists in continuing sustained improvement in education. It touches the educational lives of children, teachers, administrators—all of whom qualify as learners in innovative projects. It touches every area of the curriculum where change is desirable. It affirms the role of the federal government as stimulator and catalyst in this effort.

Title III is meeting the needs of students, school staff and school districts. In FY 1973, Title III projects were making an impact in the areas of special education, early childhood education, teacher/staff development, individualized instruction, environmental education, reading instruction and other curriculum areas. The table indicates the amount of participation.

Title III is meeting the challenge of educational change. It is the only federal program of its kind. It provides seed money for the use of local school districts in meeting the persistent educational problems they identify—problems for which no local money is available. The innovative projects undertaken by Title III range from identification and diagnosis of the learning problems of preschoolers to alternative structures and systemwide change in school administration. Title III provides a "better idea" with a chance to develop. The impact of Title III has not been fully realized, but the effort to identify and validate exemplary practices is an important step in providing any school district with an effective, proven model in meeting similar needs.

Title III makes a return on investment over a short period of time. Four years is the minimum amount of time that should be stipulated in ESEA legislation.

Recommendation No. 2

THAT funding for Title III be specifically earmarked at a level sufficient to meet those identified educational needs within the states that call for innovative solutions.

Approximately 5,000 innovative and exemplary projects have been funded during the eight-year period, 1965-73. Yet the demand vastly exceeds the amount of funds available. For each project approved for funding by the states, from 3 to 12 must be turned down, due to the insufficient funding level.

The discrepancy in funding for Title III, in particular, and for education, in general, indicates that education is the only area of our national life that we expect to function and keep up with change without providing the funds to make that change possible.

Participation in ESEA Title III
Fiscal Year 1973

DIRECT PARTICIPATION

	Students		Teachers	
	Elementary	Secondary	Elementary	Secondary
Public	3,258,904	2,439,831	168,512	90,242
Nonpublic	372,958	150,551	9,578	3,994
Total	3,631,862	2,590,382	178,090	94,236

INDIRECT PARTICIPATION

	Students		Teachers	
	Elementary	Secondary	Elementary	Secondary
Public	6,816,254	5,377,342	258,929	159,817
Nonpublic	667,363	391,180	32,380	9,822
Total	7,483,617	5,768,522	291,309	169,639

Information from U.S. Office of Education.

The graph illustrates the discrepancy between the amount of the authorization and the appropriation for Title III since the inception of ESEA.

Year	Authorization	Appropriation	Per Cent of Funding
1966	$100,000,000	$ 75,000,000	75
1967	175,000,000	135,000,000	72
1968	500,000,000	187,876,000	38
1969	512,500,000	164,876,000	32
1970	550,000,000	116,393,000	21
1971	550,000,000	143,243,000	27
1972	575,000,000	146,248,000	25
1973	605,000,000	171,393,000*	28
1974	605,000,000	146,393,000	24

* Includes $25 million in impounded funds, released Dec. 18, 1973.

If funds for innovation are thrown into the general education pot at the state level, we may see innovation become a low priority item due to the pressures brought to bear on state education funds. This must not happen. Funds that are specifically intended for innovative purposes under Title III must be specifically earmarked for that purpose to assure that states carry out the intent of Congress.

Recommendation No. 3

THAT the portion of the Elementary and Secondary Education Act providing for innovation, i.e., Title III be entitled "Innovation and Improvement."

The name used to designate Title III, "Supplementary Educational Centers and Services; and Guidance, Counseling, and Testing," does not reflect the focus of the innovative work being done in Title III projects around the country. In addition, the current title is cumbersome. Title III should have a name to match its purpose: "Innovation and Improvement."

By the same token, the currently designated title, "National Advisory Council on Supplementary Centers and Services" should be changed to "National Advisory Council on Innovation in Education."

Recommendation No. 4

THAT an adequate national system be established to collect, evaluate and disseminate information and materials on innovations in education.

Title III has accomplished much during its brief history, yet it does not enjoy high visibility. Part of the reason is the poor visibility given it by the U.S. Office of Education.

Information about innovative approaches and projects frequently has limited circulation. While the states do an exemplary job of disseminating information on projects located within state borders, no comparable system of dissemination exists at the national level.

The states show strong commitment to change, as engendered in Title III. They were the leaders in the move to identify and validate exemplary projects. The intent behind the validation process is to facilitate adoption of innovative practices. The process can be improved and expanded through commitment by the U.S. Office of Education to match the pace set by the states in FY 1973. With such improvement and expansion, however, consideration must be given to adequate dissemination activities.

We recommend that adequate funds be provided for a national system of collecting, evaluating, packaging and disseminating information and materials resulting from Title III projects. Such a system should provide for adequate personnel, who can match needs with available solutions, provide orientation and training in use of the exemplary practice and follow-up and evaluation services.

Recommendation No. 5

THAT funds be made available for an in-depth look at the whole of Title III with the focus on "Improving Education Through Innovation."

The experience of eight years of Title III operation should be tapped as a source of ideas for the future course of the innovative category of the Elementary and Secondary Education Act.

Title III has been amended three times since its passage in 1965. Yet, a comprehensive look at what has been accomplished, neglected or bypassed has not been undertaken. Three examples of state and local activities that deserve recognition and stronger support include some effective dissemination strategies, the advent of stronger needs assessment and evaluation, and the supportive role played by many advisory councils. At the same time, additional recognition and support must be given to the participation of nonpublic schools in Title III programs.

At the national level, the new emphasis on the diffusion of exemplary Title III practices, with funds provided under Section 306 of Title III, is encouraging and worthy of consideration as a possible national diffusion technique.

The program is now facing change that could catapult it into a new era. Now is the time for a reckoning. Only by having a chance to view the program in its entirety can we hope to make maximum benefit of both the successes and the shortcomings of Title III.

What's Working in Title III

Various federal programs aim at stimulating the improvement of education at the state and local level. In many cases, they are producing significant changes in learner achievement. Others are criticized for doing too little, too late.

Title III's emphasis on innovation allows an important concept to come into play: federal dollars can be focused on innovative ways to prevent problems before they reach the crisis stage. This is a much more realistic way to meet learners' needs than doing patchwork through remediation.

However, a regrettably weak area in almost all federal programs, including Title III, is in sharing information on approaches that work and those that don't. We think the potential for change is great when information is readily available on what and where something is being tried, evaluated or working, as well as its cost and whether it would work in another similar situation. By sharing and implementing preventive programs, for instance, many of the needs for remedial education should be substantially reduced.

Sharing information, products and expertise from exemplary Title III projects is the raison d'être for Title III's effort in identifying and validating practices that may facilitate constructive change in the nation's schools.

Participation in the validation process is voluntary; each project and state decides if it wants to participate. The process works in the following manner: The local educational agency nominates its project for possible validation, based on three criteria: effectiveness, cost and exportability. The state educational agency reviews the evidence presented by the project to determine if an on-site visit by an out-of-state validation team is warranted. The validation team, a minimum of three persons selected and trained in a cooperative effort by the states, reviews and rates evidence presented by the project and validates the practice as exemplary if it meets a predetermined level of acceptability.

Through this process, 107 Title III projects were validated in 1973. With the release of a brochure briefly describing the projects, interest zoomed. Requests for additional information poured into project offices; visitors increased at project sites. Clearly, educators are interested in finding out about and adopting successful innovations.

In the following section of the report, six educators analyze the projects selected by the state validation teams. The critique on the eight reading projects was not completed in time to be included in this report. A description of one of the reading projects, "Pegasus," is included. The critiques provide valuable insights into the relationship of the validated projects to the particular areas of concern, which include individualized instruction, special education, teacher/staff development, early childhood education, environmental education, and academic and special curriculum. They generally endorse the validators' judgments, while noting the strongest and weakest parts of the projects. They highly recommend widespread dissemination of information on the projects. That's our purpose in presenting the critiques. Each is followed by a brief description of one of the validated projects. The list of all 107 projects validated in 1973 appears in the Appendix.

Critique by M. Frances Klein

Individualized Instruction

Few terms have received the recognition and acceptance among educators, students and the lay public as individualized instruction. Books, monographs, articles and research reports have been written on the topic in great abundance over the past decades. In spite of being a widely accepted term, individualized instruction has proved to be difficult and elusive to implement. This is partly because it is a complex of facets in theory and in implementation.

Definitions of individualized instruction naturally place prime emphasis upon the continuous progress of each individual, based on his needs, interests and abilities. The individual, rather than the class, is seen as the prime focus for the planning of instruction. Yet, individualized instruction continues to be open to varying interpretations. Sometimes, individualized instruction is taken to mean an independent study course for all students. Occasionally, it is taken to mean a different curriculum for every student in the school.

For the purposes of this critique, a broad definition has been accepted whereby curricula and instruction are planned for and by each individual student—in an attempt to meet his unique needs, interests and abilities. It encompasses not only independent study, but group work as a part of each student's program since social interaction skills are needed by every person. It does not mean a totally different curriculum for each student, although each student will probably experience a somewhat different one even from the same stimuli. It does mean that each student will be recognized as a unique person, with his education responsive to his uniqueness.

Perhaps one reason that individualized instruction has been so widely accepted is its agreement with a basic societal value in our culture—the respect for and the recognized value of each individual. Historically, our democratic society has reaffirmed our belief that each person has inherent value and dignity. Certainly such a view is essential in today's pluralistic society.

Individualized instruction agrees with the current emphasis on minority rights. Blacks, American Indians, Orientals, Chicanos and women are demanding that they receive equal opportunity and responsibility. This in turn is making demands upon the educational system. Uniqueness must be recognized and provisions made for it. We have passed the era of the American melting pot where diversity was to be erased in favor of a common American culture. Now there is a deliberate attempt to preserve the diversity among us and not reduce people to a common mold.

Other forces in our society supporting individualization are the current concerns over self-identity and humaneness in relation to the technological aspects of our culture. Students are rebelling against just being a number in a computer. They are rebelling against a curriculum within an institution they consider to be irrelevant for their concerns and interests.

With such concerns and forces operating within the larger society, it is not surprising that almost any set of educational goals and objectives will recognize and provide for the full development of each individual student. Individualization of instruction follows quite logically. It could be expected, then, that a large number of projects applying for Title III funds would involve individualization of instruction.

Overview of the Projects

A number of common themes and procedures occur in the 18 validated projects on individualized instruction. At the same time, each project is unique and has its own definition and interpretation of how to individualize instruction. The validation of each project reinforces the varied emphases which can and have been given to individualized instruction.

Great gaps can occur between what has been proposed for and by schools and what occurs in implementation. However, the visitation and certification of each validated project by an external team has significantly minimized and, in some cases, eliminated this concern. The projects demonstrate considerable agreement between what they proposed to do to individualize instruction and what they actually did in operation.

Diagnosis and Prescription: Important First Steps

One pervasive theme among the projects is that instruction should be based upon a diagnosis and prescription cycle. The individual student is diagnosed by a skilled teacher or resource person for the purpose of determining his learning needs and accomplishments—what he has learned, where he is in his learning at the present time and where he needs to go next. With knowledge of this diagnosis, the teacher develops an educational prescription to help the student achieve his next learning steps. Some projects make evaluation explicit in this cycle, although it is implicit in all. After the educational prescription has been put into practice, students are evaluated to see what growth has been achieved. Then the entire cycle is begun again. The projects view such a cycle as a basic requirement in the individualization of instruction.

Prescription, diagnosis and evaluation appear to be done by the teacher in nearly all of the validated projects. The teacher is very much in charge of the instructional process. The child appears to have limited choices and control over his education in most of the projects.

Affective Development: How Important?

Many of the projects are concerned with the affective development of students. This usually takes the form of improved attitudes toward self and toward the school. Such concern agrees with the current emphasis in education on the development of values, attitudes and interests as well as the cognitive development of each student.

Dr. M. Frances Klein is currently serving as lecturer and director of the Curriculum Inquiry Center in the Graduate School of Education, University of California/Los Angeles. She also is director of a curriculum study for I/D/E/A. Dr. Klein is co-author of Looking Behind the Classroom Door, Recommendations for Curriculum and Instructional Materials, Early Schooling in the United States.

Most of the projects do not take into consideration student attitudes toward the primary subject matter. This is an important omission in my opinion. It is possible that students are learning the skills involved in reading and writing, but the projects usually did not study whether students are enjoying the process of reading; whether they choose to write when they are given choices; and how much they are using the library facilities available to them. These are examples of equally important affective behaviors which should be evaluated.

Staff Development: A Basic for Individualization

Staff development is a common activity within the projects and a basic ingredient to the success of most of the projects. Teachers, principals, resource personnel and even parents were given special training to enable them to become more competent. What was actually done and who was included varied from project to project, but staff development was a procedure common to all.

The projects' focus on staff development seems to indicate that the typical teacher is not prepared to individualize instruction without further training. The validated projects must have had highly successful inservice programs or the changes which have been validated probably would not have occurred.

The projects contain a wealth of significant ideas for staff development, which could serve as a tremendous resource for districts that want to improve their inservice education programs. Such inservice training programs are scarce. The 18 projects overcame this professional handicap.

Related to the inservice program are implicit directions for preservice education. For instance, a forward-looking teacher education program could include the following basic elements: knowledge of skills continua, how to manage individualized instruction, ability to use a variety of instructional modes. Preservice education will never be able to fully develop a professional teacher, however. It must be followed by the continued development offered in a strong inservice program.

The projects provide the classroom teachers something which can be easily overlooked as a reward for hard work—professional recognition. The professional recognition given to the teachers in these projects may have been a significant factor in the projects' success.

Individualization: By Content, Time, Space, Materials

A strand common to the projects is a major concern for the skill subjects. Reading, language arts and mathematics are the most common subjects which the projects individualized. Some projects mention other subjects such as social studies, science, art and humanities, but these were not a part of the evaluation design included in the projects' validation reports. To what extent these subjects were individualized is not known.

The skill subjects are sometimes considered the most basic content in the elementary school curriculum. They also may be considered as easier to individualize because a sequence can be defined for them—a common activity for the projects. These continua were presumably used as a basis for diagnosis, prescription and evaluation for each child. A student's progress in the skill subjects can be tracked more easily than through subjects such as social studies or science which do not have such clear sequential structures.

The element which received the greatest amount of individualization in the skill subjects was time. Each student was allowed to proceed through the given continua or a common bank of skills according to his own pace. A few of the projects recognize and attempt to deal with other elements of individualization such as learning modes.

A caution is in order: Schools must be careful to provide all children with a rich curriculum containing many subject areas and not just a math or a reading curriculum to the exclusion of other important learnings.

Some of the projects indicate some concern for openness in education—an attempt to make the use of time, space and materials less rigid and arbitrary. Presumably, openness makes the resources of education more responsive to the individual.

A few projects also express an explicit concern for the climate of the school and classroom (Salt Lake City, Utah, and Concord, N.H.). This recognition of climate suggests an awareness that individualization means more than merely defining the sequence of skills in reading or mathematics. The total environment of the classroom and the school support individualization.

The Validated Projects: Similarities and Differences

Most of the validated projects deal with individualization in the elementary schools. Attempts to individualize at the secondary level are mentioned in only a few of the projects: Tyler, Tex.; Goshen, Wyo.; and Providence, R.I.

Other characteristics that can be clearly identified in all projects include behavioral objectives, an evaluation design and cost accounting for effectiveness. These are emphasized by the funding agency and all validation reports include them.

The differences among the projects appear to be more of degrees than of distinct qualities. The two most unique seem to be the Washington, D.C., project which attempted to involve parents in the schooling of their children and the Alternative Learning Project in Providence, R.I., which used the community as a part of the secondary level.

The projects vary in degrees along several common characteristics. Some took on much broader concerns of individualization than did others. For example, project U-SAIL in Salt Lake City, Utah, was concerned with language arts, mathematics, science and humanities while A New Adventure in Learning in Tallahassee, Fla., was primarily concerned with language arts. The project in Concord, N.H., was concerned with all students while the project in Sioux Falls, S.D., was concerned with young students who were potential dropouts. The project in Daytona Beach, Fla., individualized the teaching of mathematics through an instructional mode emphasizing teaching tapes, supplemented by small and large group instruction, while U-SAIL developed over 4,000 learning modules with a variety of instructional modes. Some projects explore a systems approach (U-SAIL); some included a process of planning for change (Concord, N.H., and Tyler, Tex.); some had more comprehensive and creative evaluation designs (Concord, N.H., and Wayne, N.J.).

Dissemination and Diffusion Strategies

The projects often use a systems approach for dissemination (Salt Lake City, Utah; Hackensack, N.J.; and Concord, N.H.) as opposed to a simplistic approach. In most projects, emphasis is placed on the adaptation of the project as a whole, or of portions of it, rather than as a recipe to be followed in order to improve American education. This is a sound approach. Projects seem to view their local situation as unique and make accommodation for the uniqueness rather than make attempts to erase or reduce this variability—if possible. Thus, the dissemination process recognizes and values local schools.

Significant products developed by a number of projects which could be easily transferred are the various continua of math and reading skills. They probably are critical in attempts to individualize math and reading, and all interested schools should have access to them. Their acceptance or adaptation could facilitate the development of individualized instruction across the country.

Some projects emphasize the process of change within their own development. Tyler, Tex., is a notable example since it deliberately specified change procedures. Documentation of how the projects changed internally as they developed could be a significant contribution to education. An awareness of factors and procedures contributing to and impeding change are extremely important in dissemination/diffusion attempts by projects.

The extent to which projects involved groups other than professional staff is difficult to determine. Most projects included activities to inform parents of their work, and some involved parents as an inherent part of their program (Washington, D.C.; Portsmouth and Providence, R.I.; and Moore, Okla.). Other than involving or informing parents, however, there appeared to be little consideration of other groups in developing projects.

There is some evidence that the projects have had some effects on other parts of the schools in which they were located, on other schools in the district and, to a more limited degree, on other schools in the geographical region. Some projects indicated that other schools were considering or implementing all or part of their approach (Concord, N.H., and Valdosta, Ga.).

A major consideration in any dissemination/diffusion effort is the necessity for creation of a supportive environment. This factor has been documented as a necessity for programs advocating change. Creating a supportive environment may be done in a variety of ways, but the changes need to be nurtured carefully both within the school and by the larger community.

Careful consideration should be given to what can be realistically exported from these projects. All of the projects have extensive developmental histories. These may be a critical variable which cannot be easily exported. They can serve, however, as models of excellence which other schools might consider and build on.

Recommendations for the Future

The 18 validated projects exemplify individualization of instruction and demonstrate that schools can do it.

The following recommendations are made not to belittle in any way the significant progress by the 18 projects, but to suggest what else might be considered:

1. *Individualization should be developed along many dimensions.*

One characteristic which most projects held in common is that individualization occurs in terms of pacing. A few projects investigated individualization along other dimensions. Portsmouth, R.I., individualized learning modes; Blackfoot, Idaho, individualized instructional modes; and Salt Lake City, Utah, and Moore, Okla., tentatively explored individualization in subjects other than mathematics and reading. Based on information contained in the validation reports, however, subject areas other than math and reading were not included in the evaluation designs for the projects.

Individualization should now be explored in the social studies, science, art, music, physical education and all other subject areas offered by schools. It should not be limited to reading, language arts and mathematics.

Individualization should also be explored in terms of other elements of schooling. Goals or objectives might be individualized to a greater extent. For example, students may differ in their goals—gaining an in-depth knowledge of geology; being proficient in foreign languages; becoming an involved citizen by participating in a community action program. Individualization should occur in terms of content studied, learning activities provided, the kind of evaluation conducted, and the resources and instructional modes used for learning.

As examples of individualizing content, social studies could allow students to study a variety of cultures and yet develop understandings about the interdependence of humankind. General science could provide for an array of specific fields of science from which students could select, and yet all could develop some basic skills in scientific methodology.

A variety of instructional modes should be offered for individualization: independent study, small group interaction, large group presentations, lectures, discussions, experiments and inquiry. Individualization could include a multitude of activities for and by students: reading books, taking field trips, building models, consulting experts, creating artistic products, producing charts and diagrams, discussing films, filmstrips and study prints.

Evaluation could be individualized by various means of determining student progress. One student might be given an objective test, another an essay to write, another a diagram to produce or another an interview.

The matching of personality characteristics between teachers and children should be explored for individualization. Some students learn best from a warm, supportive, nondirective teacher; others learn best from a teacher who is strict, upholds high standards and places demands for learning on students. Which teachers are warm and supportive or brisk and demanding should be consciously identified and matched with students who learn best from such teachers.

Some of the 18 projects tentatively investigated a few of the above dimensions; other did little or nothing with them. All of these dimensions should now come under serious investigation. With such exploration, individualization occurs not just in instruction, but along other dimensions of schooling as well.

2. *Personalization of education should be implemented.*

Personalization as defined by some educators today seems to include individualization as has been developed by the 18 projects, plus individualization along the other dimensions named above. Personalization also

seems to mean more than individualization and includes at least two new elements: students have a choice of real alternatives in the school program, and they have legitimate decision-making power over their education.

In the concept of personalization, the student receives guidance and practice in choosing among alternatives and in making decisions.

A few of the 18 projects were concerned about personalization as defined here: Providence, R.I.; Lynchburg, Va.; and Goshen, Wyo. Some of the projects put into operation a personalized program for each student to the extent of their resources, but these attempts were quite limited.

3. *The types of procedures and devices used to evaluate the effects of individualization and personalization should be broadened.*

The validation reports contain a narrow range of evaluation instruments and procedures to assess the attainment of program objectives. Also, the designs of the 18 projects are rather restricted in terms of what was to be evaluated and how. (Wayne, N.J., is the notable exception and seems to have a creative evaluation design.) Undoubtedly, the state of the field in evaluation affects the designs developed and the decisions made. The desire for "hard scientific" data or "empirical" data also influences what is evaluated and how.

Objective, standardized tests were the most commonly used and accepted instruments by the projects and validation teams. These instruments were appropriate to assess the progress being made by students in reading and math skills. Almost all of the projects, however, showed concern for the affective development of their students. Objective, standardized instruments are not always available for some of these concerns and some of the instruments available do not always possess high validity and reliability. Although the difficulties in evaluating affective development must be recognized, they should not be allowed to minimize this important concern.

Subjective data in terms of observations, judgments by and opinions of professional people may be the only documentation available for significant aspects of affective development. For example, in the two on-site visits I made, significant developments had occurred in the affective development of students, but they were difficult to document. Principals in Salt Lake City, Utah, mentioned the dramatic reduction in children being sent to the office for misbehavior. The warm, supportive human relationships among children and staff in an interracial school in the Southern city of Tallahassee, Fla., was very evident to me as an observer. The color of one's skin did not matter in that school. These are highly significant educational achievements, but ones which cannot be documented by objective, standardized tests. Provision must be made to document growth and evaluate progress in all areas of development.

4. *Objectives or goals of a broader nature should be included in new designs for educational programs.*

In nearly all of the projects, evidence is available to indicate that with individualization of instruction, students can be taught reading and math skills both affectively and efficiently. This is significant documentation. Now, however, schools should be charged to maintain skill development and to extend their efforts to broader types of behaviors. For example, enjoyment of reading, skills in learning how to learn, developing values and inquiry skills, empathy for humankind, and positive attitudes toward learning are equally important to students.

The schools should now devote their resources to developing ways of documenting increments in growth and formally evaluating student achievement in the broader behaviors with which education is concerned. These broader behaviors require more time to develop than specific skills in the subject areas. Thus, a year may not be enough time to show growth in developing values and attitudes. Evaluation must become more longitudinal and a variety of procedures and devices must be utilized to evaluate growth in broad goals of schooling.

5. *Schools should carefully nurture conditions which will foster desirable changes in education.*

Investigating new ways of evaluating and developing broader objectives requires a departure from some accepted conventions in schools. Those who are willing to deviate from the "tried and true" to explore new ideas and procedures should do so in a supportive environment. The atmosphere must be one where mistakes can occur and be corrected, where concern for student and teacher growth is always paramount, and where the resources of the school are committed to assisting each student in obtaining the best possible education.

6. *The financial support for education should be increased.*

The reports of the 18 projects could be considered as aspects of excellence in education. Yet, each project required financial assistance beyond what is normally available to schools in order to achieve that degree of excellence. This strongly suggests that if students are going to have the kind of education we desire for them—and that they need in order to function effectively in a democracy—more resources must be made available for education. School staffs need additional financial resources to help them gain access to new knowledge, concepts and procedures, to put the information to use in the local situation, and to evaluate the new knowledge and implementation. New ways to utilize these resources are also needed. The Tyler, Tex., project, for example, appeared to achieve significant changes in schools by utilizing limited resources in a rather innovative way.

7. *A new vision of education should be developed in which education is seen as a process rather than a product.*

We should be less concerned with what we teach a child and more concerned with the kind of person we are helping to develop. Schools have been and rightfully should be concerned with helping students learn certain basic knowledge and skills that our society considers essential. With the knowledge explosion, however, we cannot begin to teach the accumulated knowledge which is available. There is far too much! Further, the rate of change in many aspects of our society suggests that the school cannot possibly select for teaching that knowledge which students will need to know when they are adults. This historical view of education is negated by the rate of change around us.

The world of 2000 will be quite different from the one of 1974. This suggests that the schools and society must take on a new view of education—what kind of a person is needed in a world of rapid change and how can the schools most effectively contribute to the development of those characteristics.

A New Adventure in Learning

A New Adventure in Learning sought to meet a common need among K-3 students in Tallahassee by using an uncommon approach. The need—language ability—became apparent in 1967 when six-year-olds entering the first grade were found to have an average "language age" of 3.0 years. Even after the first year was completed, the youngsters continued to show deficiencies in language performance.

The project received its initial funding under Title III in 1968, followed by three continuation grants. An average of 310 students were included annually in the project. Half of the students were black and from rural areas and the other half were white and from urban areas. All required special attention. Each received diagnostic treatment, followed by individualized instruction that brought together children with common needs and allowed students to act independently when such action was appropriate.

The project focused on helping students not only to develop language skills but to be able to apply them, once developed. An "activity-centered" approach was selected as the most appropriate way to accomplish both aims.

Diagnosis, Prescription, Individualization

Teachers were trained to use informal inventories and to observe carefully each child's language needs. The resulting learning prescription called for each child to reinforce reading skills by working with programmed materials, reading kits, basal readers, listening stations, workbooks and learning games. After direct teacher instruction, the children worked independently with minimal teacher assistance.

Children with common needs were brought together in small, flexible groups for direct instruction by teachers, and moved in and out of different groups for help with particular skills. Other groups of students, such as those using basal readers, were more stable in makeup.

Oral language lessons were structured for small groups and the total class, with discussions geared toward achieving specific objectives, such as vocabulary development, concept development or problem solving.

Kindergartners participated in as many individualized activities as did older students. In designing individual programs for them, planners took into account the student's visual, auditory and psychomotor development, his social and emotional maturity, and his experience. Some required pre-reading skills; others were ready to participate in formal reading activities.

Educationally disadvantaged children (those with meager language abilities) were placed in remedial groups where they participated in activities such as using rhyming words, practicing correct verb forms, telling stories in sequence, matching identical colors and sorting pictures by category. Many of the activities, like those for kindergartners, focused on the skills needed to get ready to read.

One aim of the project was to get each third grader to achieve at or above what would normally be expected of him in spelling, the mechanics of writing and study skills. Although basic spelling texts generally were used with any student who could learn from them, small group instruction was used for any child who experienced problems. More advanced students worked with spelling kits with minimal teacher guidance.

The project found that the mechanics of writing could be taught most effectively during handwriting lessons. Students were corrected in the mechanics of composition after they became confident in expressing their ideas. Study skills were improved through many diverse means: the use of the dictionary, kits dealing with graph and study skills, and special interest projects.

Evidence of Effectiveness

Some "indirect but significant" outgrowths of the program resulted in new abilities and attitudes for students. For instance, they were able to make instructional

Getting down to the action

Sometimes two can solve a problem better than one

choices appropriate to their abilities; they demonstrated a positive attitude toward school; and they learned to accept students who achieved at different levels than themselves.

Using standardized tests, evaluation was in the form of pre/post testing. The results were favorable over the life of the project, as shown by the following:

- Significantly, students from disadvantaged backgrounds registered either improvement or maintenance on the Wechsler Intelligence Scale for Children.
- The project was successful in building the mental age of kindergartners. The project report noted that "structuring many kinds of daily verbal interactions appears to have a direct relationship to reading" and that the specific activities used to increase the children's mental age "could particularly benefit children from language-deprived backgrounds."
- Fifty-seven per cent of the students in grades 1-3 reached their expected levels in reading. By comparison, only 37 percent of the students were reading at expected levels when the project began.
- Of the third graders enrolled in the project, 87.8 percent achieved at expected levels in the mechanics of writing, while 91.4 percent did so in spelling, and 73.2 percent in study skills.

The most important conclusion reached by the project may be its statement that "no one approach or material was effective for all pupils in a single classroom." By contrast, the project noted that "evaluation results showed minimal growth" in classes where total reliance was placed on independently used materials.

How Much Does It Cost?

The project reports that a major part of its budget during the four years it received Title III support was spent for program development and research. Included were items such as curriculum design, selection and trial use of the diagnostic-prescriptive instruments and materials, and development of the management techniques. It notes, however, that it has completed the groundwork in these areas, which would reduce the start-up costs for any district interested in adoption.

"A fairly well equipped school adopting all components of the program should be able to do so for no more than $53 per pupil," according to the project report, with most of that amount going for staff training and retraining. The project recommends that schools figure on a two-week workshop before school beings and at least one-half day release time each month for staff training.

The program requires a variety of instructional materials. The project report stresses the need for a "number of commonly used *kinds* of materials rather than specific programs." It estimates that a well equipped school with a variety of materials and equipment and ongoing inservice training should be able to adopt the program at a cost for new materials of about $400 above regular district support.

As a final encouraging note, the report notes that the program is being maintained at W. T. Moore Elementary School entirely on regular district funds, except for costs directly related to its function as a demonstration center.

Critique by Maynard C. Reynolds

Special Education

The late Al Smith is reputed to have said, "If you want to lead a parade, don't get more than two blocks ahead." Perhaps a similar admonition ought to be given to most innovative projects in education. Separation from the main body of work in a field does not signify leadership.

My review will assess how well the 24 innovative projects in special education are connected to the main body of special education and will consider their participation in the "parade."

Special education is based on the premise that every person is valuable in his own right and should be afforded equal opportunities to develop his full potential. Historically, however, schools have tended to neglect or exclude children with unusual learning needs. The primary assault upon these discriminatory practices has come from special education.

The first formal provisions for the education of exceptional children in the United States were made in the late 19th century in the form of residential schools. Subsequently, at about the turn of the century, special arrangements were made for the education of some handicapped children in community day schools. The special schools and classes of the early 1900s did not expand rapidly, but they did help to open up stations for exceptional children. The "special class" movement became part of a trend toward progressively inclusive arrangements for the education of children with special needs.

From the end of World War II to about 1970, special education made a great quantitative leap. In a period of 25 years, the number of exceptional children served in special programs increased by more than 600 percent while corresponding increases occurred in the numbers of teachers and other personnel who were employed in the field, and in the number of colleges and universities which provided specialized training. No great technological breakthroughs characterize the period. The virtual explosion of services was based mainly on the simple models of the past—special classes or schools for various categories of exceptional children.

Parent Groups as Forces

Beginning about 1970, a new course of development could be discerned in special education. The organized groups of parents of handicapped children, who, for about two decades, had encouraged the political support of special education to goad schools into serving their children, turned to the courts. The results of the litigation must be understood in terms of at least five major concepts:

1. Every child, bar none and including even the most profoundly handicapped, has the *right to education* in public schools.
2. Each child has the right to an *appropriate* education, judged and justified in terms of his individual needs.
3. Every child's education ought to be conducted in the *least restrictive environment possible*, which is interpreted to mean that education for every child ought to be conducted in regular classes if possible and that placement in specialized settings ought to be permitted for compelling reasons only.
4. When children are referred to special institutions, they have the *right to treatment*, a right which may not be abrogated because of lack of funds or any other reason.
5. Every child and his parents have the *right to due process* in all major decisions affecting the child's education.

A quite different force has been generated by minority group parents. While most members of the categorical parent groups, such as the associations for retarded children or children with learning disabilities, have been white, middle class and relatively affluent, many of the programs initiated at their instigation have proliferated in urban ghetto schools where a high proportion of the children are from minority or impoverished groups.

Special programs for the so-called educable mentally retarded and emotionally disturbed, labels which tend to carry a great deal of stigma, developed rapidly in communities with much impoverishment and high minority group membership. In these communities, the "special class" and all that it represents in terms of testing, labeling and negative expectation are in disrepute. School administrators in many of our largest cities are under a virtual mandate to reverse the expansion of special education programs and to eliminate the testing, categorizing and labeling practices which have been associated with placement in special programs. Clearly, special education programs are under attack by two conflicting community forces.

Trends and Issues in Special Education

As part of the Council for Exceptional Children (CEC) project on professional standards and guidelines, a questionnaire was sent out in early 1973 to several hundred special educators and administrators. They were asked to list not more than five aspects of special education that will change most during the next ten years.

Some 800 predictions by 201 respondents were analyzed and summarized under seven categories. According

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to the distribution of responses, the greatest changes were foreseen in the categories of administrative arrangements and teacher education. Respondents predicted increases in mainstreaming, resource rooms, supportive roles for special educators, individualization of instruction for all children, and organization of curricula around learning problems and needs. Decreases were predicted for self-contained special classes, classes for the mildly handicapped categorization, labeling and the use of the medical model for diagnosis.

A second survey of interest in the present context was conducted by the CEC Information Center. All state directors and a sample of 40 local directors of special education were interviewed by telephone. They were asked to talk about current problems and issues. Results showed mainstreaming to be the "hottest controversy or issue" in the field. Although a variety of other concerns emerged, administrators expressed great interest in program evaluation, professional competence and programming for the emotionally disturbed and learning disabled.

A Change in Values: Individualism

Implicit in many of the trends in special education is what may be a fundamental change in the values in our society: a shift to the concept that the rights of the individual have priority over institutional and even societal concerns and values. During the 19th century, free public education was the response to the need for a literate electorate. With the influx of immigrants, the purpose of education was seen to be the Americanizing of newcomers and then transmission to them of the country's cultural values. With the halt in immigration after World War I, education was viewed as a social investment in children who would be able to make returns to society. The handicapped were not included in the provision for education under these conditions or, at best, they were given a marginal, labeled position in the schools.

Lately, the view has shifted. The individual's ability or potential to provide a return to society is not considered a proper test for enrollment in school or arranging the details of a child's education. Enhancement of a child's life is sufficient reason for extending educational opportunities to him.

The emergence of priority for the individual has spread and shown itself in other spheres, such as the application of due process in placement decisions; new approaches to measurement and monitoring of individual progress, such as criterion or domain referenced testing; acceptance of scientific journal articles based on a single person; and new management systems for classroom situations which stress individual development.

The change in values and the related changes in the day-by-day operations of schools provide a new climate in which special educators attempt not only to serve the children with unusual needs but also to help build sensitive, individualized programs for all children.

The preceding review may help to provide a sense of the context in which to evaluate the 24 innovative projects in special education and to plan further dissemination efforts for them. Major elements to be considered include:

- Tremendous expansion in special education services.
- A new and pervasive influence by the courts.
- Sensitivity to negative labeling processes in special education programs.
- A press for regular educators to deal with exceptionality.
- Reformation of specialized teacher preparation.
- Extension of special services to preschool levels and to severely and profoundly handicapped children.
- More accountability of teacher performance and programmatic results.
- Concern for better models to deal with social-emotional problems of children.
- Programs planned and justified in terms of the individual needs of each child.

The Validated Projects

The 24 special education projects surfaced on the basis of individual characteristics and merit. They show a significant clustering around five major topics:

- *Mainstreaming:* accommodating exceptionality in regular classrooms. For example, see projects in Blue Anchor, N.J.; Essexville, Mich.; Federal Way, Wash.; New Providence, N.J.; Papillion, Neb.; and Providence, R.I. A number of the other projects also relate to the theme of returning exceptional children to regular school stations as rapidly as possible.
- *Teacher Education:* a majority of the 24 projects include components concerned with the inservice education of teachers, usually regular teachers, to create more resourcefulness in dealing with exceptionality. For example, see projects in Blue Anchor, N.J.; Dothan, Ala.; Essexville, Mich.; Indianapolis, Ind.; Lincoln, Ill.; New Orleans, La.; and Peotone, Ill.
- *Early Education-Prevention:* several of the projects have centered attention on the identification and early education of children who show early or incipient signs of potentially serious deviations. For example, see projects in Colorado Springs, Colo.; Peotone, Ill.; New Orleans, La.; and Westminster, Md.
- *Social-Emotional Problems:* some projects gave specific attention to children who show social-emotional or behavioral problems, often with a view toward maintaining them in or returning them to mainstream school situations. For example, see projects in Dothan, Ala.; Great Falls, Mont.; Louisville, Ky.; and Papillion, Neb.
- *Severe Handicaps:* a small number of projects was concerned with multiple and severe handicaps. For example, see projects in New York City and Rochester, N.Y.

These main clusters closely concur with the major concerns in special education. Individual projects which tended not to fit any of the preceding clusters, also seemed to be quite relevant to modern thrusts in special education. Topics such as the following were encountered frequently in the projects: learning disabilities, prescriptive teaching and contingency management. Clearly, the 24 projects are integral with the parade of the 1970s in special education.

Dissemination of Projects

The question that emerges is how to achieve a greater influence or impact from these outstanding projects. Before specifically discussing the prospects and problems in

disseminating the validated projects, however, my general assumptions regarding dissemination must be presented.

Most project reports are poorly prepared and infrequently read. Consequently, there is a great need for innovation in the process of disseminating reports on special educational projects. Moreover, most projects are poorly prepared to operate an effective dissemination system. For example, if they publish materials for distribution from their own offices, the scope of dissemination will usually be very narrow. This situation suggests that project personnel need help in dissemination.

Many products developed in special education projects will not be movable through commercial vending systems, simply because the market in highly specialized fields is too thin. This problem suggests that a special support system is needed. One reason may be that local project reports and products are often inadequately valued by colleagues because they have not been "juried" in vigorous fashion like professional and scientific journal articles. Consequently, there is little "payoff" for those who do good jobs in noncommercial dissemination.

These several assumptions suggest that the national leadership in ESEA Title III should give prominence and visibility to dissemination activities. Specifically, the following activities might be considered:

1. *Support national conferences on special topics which emerge when one or more projects show outstanding progress.*

Often, this plan might involve linkages with other programs which also may have outstanding projects in the same or related domains. The conferences could bring together outstanding theoreticians and practitioners in the area, and major publications could result for national distribution. Two possibilities for national conferences are:

- Preventive Learning Disability Programs. Several of the projects have been concerned with very early identification of children with incipient learning problems. (See Peotone, Ill.; New Orleans, La.; Wayne, Neb.; and Westminster, Md.) This is a critical area for increased dissemination. The Division on Training Programs of USOE's Bureau for Education of the Handicapped sponsors other projects in the same domain. A major conference and publication on this topic would be extremely important in defining a new trend toward earlier, preventive work in this important field.
- Secondary School Programs for Learning Disabled Students. So far, most school systems have launched "LD" programs only at elementary school levels, but concern is extending rapidly to secondary schools. A conference and publication on this topic would be extremely timely. If outstanding projects (as in Lincoln, Ill.) were made visible through such a means, they undoubtedly would be called upon to provide technical assistance in many communities wishing to launch similar programs.

2. *Seek opportunities for cooperative dissemination projects with established organizations and agencies in the field of special education.*

A series of monographs or books could be undertaken on selected topics, such as screening instruments and techniques for identifying kindergarten children with special needs, and analysis and reporting of costs of specialized school programs. These topics were treated with good results in several of the validated projects.

3. *Offer technical assistance to projects to help them carry selected, outstanding aspects of their projects through development stages.*

Most project personnel will not have enough background in such matters as media, product evaluation, dissemination strategies and copyright clearances to move efficiently through stages of product development. Yet outstanding resources are available to assist people in this kind of undertaking.

4. *Projects that apply well known procedures should affiliate with other centers doing similar work in order to accumulate impact.*

For example, the validated projects include several that work with behavior modification procedures, the Monterey language training system, the "Re-ed" model for serving children with behavior problems, and the engineered classroom. In each case, a network relation with other centers could design broadly framed dissemination activities.

In a somewhat different framework, some projects are doing important innovative work in areas that are new on the state or local scene, although they would not be considered innovative nationally. In such instances, provision for on-the-scene, "hands-on" kinds of involvement is important as a dissemination strategy.

A Final Note

In my judgment, it would be extremely useful if a national office concerned with Title III could undertake a major leadership project on dissemination of these several projects. Technical assistance could be provided to assure effective dissemination and to involve major organizations in the special education field.

If this cannot be done directly out of a national office, perhaps a system of subcontractors could produce the required action. The Title III Advisory Council is part way down that important roadway, but the "payoff" of each project would be magnified if the Advisory Council could make visible and available the details of the validated projects.

Early Prevention of School Failure

Failure in school can be prevented if the potential pitfalls for a student are identified early enough and if special help is provided to students with learning disabilities, according to the findings of a Title III-funded project operating in Peotone, Ill.

The project is a model of cooperation and of using the right people at the right time. Twelve public school districts and two private districts, spread over an area of 536 square miles, are sharing the services provided by the project's staff, consisting of a director, psychologist, social worker, learning disability specialists, speech therapist and teacher aides.

Diagnosis: Spotting Potential Problems

Children are individually screened during the summer before school opens for learning problems in the processes of speech, language, hearing, vision, motor coordination and emotional/social development. Each screening session lasts for approximately 1½ hours. Parents attend the session and are given an extensive orientation to the program.

Tests are scored immediately, with one of three results. The child needs further testing and possible placement in a learning disability classroom; he needs professional services in the regular classroom; or he is ready for entrance into a regular class, with no special needs indicated at the time of entrance.

The potential of the project can be seen in the screening results for the 1971-72 school year. Of 811 children who went through the prekindergarten screening process, 96 percent entered regular kindergarten classrooms. Of those, however, 41 percent received professional services, as needed, throughout the year. The children identified as having one or more serious learning disabilities—four percent of the preschoolers—were placed in one of the project's four learning disability classes.

The Learning Disability Classroom

The project's four learning disability classrooms use commercial and teacher-made materials to provide instruction to a limited enrollment of 10 students per classroom. Students who enter the classes are expected to make a month's gain for each month of attendance. Progress is measured and assessed in specific areas of ability, achievement and adjustment by using objective tests.

During the first year of the project, the retardation rate of children entering the special classes averaged 23 months. By the end of the year, more than 35 percent of the kindergartners had been returned to regular classes. For every month spent in the special classes, they demonstrated an achievement growth of 2.39 months in receptive language development, 1.39 months' growth in visual motor coordination, 3.12 months' growth in psycholinguistic abilities. During the second year of the project, the number of students who were returned to regular classes jumped to 63 percent.

Other Services:
Itinerant Help; Special Training

Children and teachers in the regular classrooms receive itinerant help on a regular basis, or as needed in individual cases. The social workers, for example, consults with students, parents and administrators and refers students to health, social and psychiatric agencies. In some situations, he develops behavior modification programs for students in both the school and the home. Other itinerant consultants work with students individually or in small groups when deficiencies are noted in the areas of language, vision, hearing or motor development.

The results of the itinerant services surprised even the project staff. Students who had been identified by their teachers for special help during the year scored above national norms in end-of-the-year testing.

Itinerant and special help is provided to teachers in the regular kindergarten classrooms through a variety of inservice workshops that concentrate on helping teachers to individualize instruction. Project staff also assist with parent volunteer programs and with the development, selection and demonstration of materials and teaching aids. Teachers may attend university classes or other model programs—all arranged by project staff.

Inexpensive, effective and adoptable kindergarten screening programs and tests have been developed to assist in gathering information needed to modify instructional programs. Project staff have also developed a scale that enables teachers to determine the programs which will cause the student the least amount of frustration and provide maximum benefits.

How Much Does It Cost?

The Project reports that costs for implementing the program would be minimal—about $110 per child above normal costs. The money should be spent in three areas which hold the keys to success for the program staff: training, use of special education specialists, and program planning.

The project says several additional factors need to be considered by any school interested in starting a similar-type special education program:

- Parents, teachers and special education staff must work on a cooperative basis in ensuring an appropriate program.
- Preservice and inservice training is a must for teachers to assist them in modifying the learning experiences of kindergartners with moderate to severe learning problems. Teachers must be willing to individualize instruction to meet their needs and in doing so, to allow and encourage parent participation.
- A screening program should be used to determine each child's functioning level.
- An appropriate administrative structure must be developed that allows for the use of services based on the children's needs.

The project staff conclude that the exportable aspects of the project make it possible for any school district to develop an effective, innovative program which can give all kindergartners a positive start toward success in school.

Screening

Learning Disability Classroom and Teacher

Itinerant Services

Critique by Milton Goldberg

Early Childhood Education

The goals of the 14 validated programs in early childhood education reflect the essential controversies about the role of such programs today and, as stated in specific programs, can help to give us clues about the system which created them. The root controversy may be defined in terms of the developmental model ascribed to in program description and implementation. Clearly, theoretical models may not be given much attention as programs are developed, but they become quite visible when goals and practices are identified.

In some models, the child is viewed as relatively neutral with adult-provided experiences and environment making critical impact on his development. When this view is represented in the extreme by behaviorists, educator-manipulated experience and curriculum are stressed.

In other models, the child's interaction with his environment is crucial and his psychological being is given maximum opportunity to effect personal growth. The program is viewed as a function of the child's developmental level including his needs, abilities and interests.

When goal statements clearly reflect one or the other of these positions, it may be assumed that the program practices will be consistent with the same position. More often than not, goals represent some point between these positions, thereby complicating attempts at explication and evaluation.

Early childhood curricula typically address the following areas with emphasis and approach depending on theoretical bias: socialization, values, intellectual competency, language systems, self-expression, aesthetic expression, physical skills and personal autonomy. Clearly, these broad areas reflect what appears to be comprehensive societal ambition for each of us.

The growth rate for young children as their vistas are widened via experience and interaction is such that early childhood programs may have a significant impact on all areas. When we work with young children, we are most likely to relate to the widest variety of society's goals.

The Home: A Critical Area

Some projects (Phoenix, Ariz.; Gary, Ind.; Detroit, Mich.) see the home as such a critical factor in child growth that primary attention is given to parent training and experience. In these cases, parent goals are stated in terms which ultimately relate to the child. Three examples follow:

"To provide the mother with skills necessary to prepare the child for school."

"To acquire new understandings, deeper knowledge and commitment for guiding child growth."

"To create a prescriptive and enriched home environment that fosters cognitive growth and interest in learning."

These project goals represent indirect intervention by assuming a primary role for parents. This does not necessarily make the approaches less effective; it merely suggests a reasonable way of differentiating program emphases.

The majority of validated projects assume a direct intervention approach. For example, Muncie, Ind., utilizes home training to extend school experience; New Albany, Miss., involves parents in development of materials and learning activities; East Harlem, N.Y., instructs parents in interaction techniques; Martinsburg, W. Va., expects parents to participate in program development and to conduct prescribed activities with the child at home. Cincinnati, Ohio, provides two levels of parent participation, one in the classroom serving in effect as paraprofessionals, and the other via inservice training with hoped-for impact in the home.

Projects Relate to Children's Needs

Another discriminating factor among the projects relates to the character of the children to be served. There appears to be an implication of "specialness" that is suggested by project goals and procedures. Plattsburgh, N.Y., is most direct by indicating that mentally retarded children are beneficiaries of the program.

Muncie, Ind., aims at identification of learning disabilities and "developmental lag" with appropriate corrective procedures. The program title, "Catch 'em Early," sufficiently implies the problem nature of the population to be served. The project in Central Point, Ore., "Helping Eliminate Early Learning Disabilities," is also self-explanatory. Program recipients are children who evidence low levels of coordination, language development and a variety of school-related discrimination skills. Both projects employ specific training activities to ameliorate identified lag or disability.

The specific nature of the objectives would seem to necessitate prescribed curricula and activities that could preclude those appropriate to other aspects of a child's development. For instance, the Union, N.J., project views learning as the primary goal. Activities are derived from "establishment of a base of prior experiences." The development of sensory skills, primarily the visual skills, is considered critical. Verbal articulation is aimed for, but

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visual analysis and effectiveness are stressed. The curriculum is therefore centered on an instructional package of objects and visuals. Child response and structured curriculum serve to produce "intensified visual perception" which is related to enhanced insight into the total environment.

Two projects address themselves most explicitly to the population typically described as "disadvantage." Baltimore's program is based on the assumption that since many inner city children have not mastered basic skills in school, cognitively oriented instruction begun at an earlier age with similar children should be provided. Objectives are stated in terms of mastery of skills related to number facility, language development and abstract and academic symbols. Structured curriculum, individualized instruction, staff development and appropriate evaluation procedures all contribute to a program specially designed to enhance chances for success in formal schooling.

The Martinsburg project, "Handicapped and Non-Handicapped Early Childhood Education at Home," attempts to "overcome the various economic, cultural or educational problems" of Appalachian children. The program emphasizes home and parent leadership. Aims include improvement in self-concept, gain in intellectual abilities, improved adjustment and social development. Parent goals include greater involvement in program activity and increased understanding and acceptance of child development and handicaps. Educational programs are planned in the home with carefully selected instructional materials and prescribed activities. Both programs, as well as most of the other validated projects, show overriding concern with preparation for school.

Phoenix's "Mother and Child Learning Team" project hopes to prepare the child emotionally, socially and intellectually by seeing the mother and child as a team, with improvement of parental attitude and role as a key goal. Detroit's "Parent Readiness Education Project" works to reduce or eliminate "the deficiences of high-risk preschool children" by similarly viewing the parents' role as crucial. The program emphasizes parent training that will provide an enriched home environment.

The New Albany "Model Early Childhood Education Program" was created out of a concern about the consistently low performance of new first graders on measures like the Metropolitan Reading Test. Therefore, while learning is encouraged via games, activities and enrichment experiences, ultimate success is measured by achievement on traditional tests. The development of materials is the responsibility of staff although parent involvement is desired and encouraged.

The Fremont, Ohio, project is based on analyses of the problems of school underachievers who were involved in remedial education programs. The analyses concluded that the roots of difficulty lay in the earlier unmet developmental needs of the children. Therefore, a program was designed "to assess the strengths and weaknesses and detect barriers to learning in preschool children" and to base educational experience on this information. The curriculum which evolved seeks to assure academic success in first grade.

The Changing Community

The phenomenon of the changing community provides the impetus for the "Interracial Early Childhood Education Program" in Cincinnati. But the major need to be met is still improved school readiness, particularly for "disadvantaged" children. The special nature of the community served, however, yields additional goals related to positive self-concepts, racial concepts and positive parent attitudes toward community and school. Success is measured by IQ scores, healthy racial attitudes and relationships, and community commitment to preschool education.

The Central Point, Ore., project serves an economically heterogeneous population. The characteristics of unsuccessful first graders and even sixth graders among the target population include inadequate student skills in visual discrimination, visual-motor activity and coordination, and language development. The program, therefore, aims at early diagnosis and correction through parent involvement, staff training, "direct" instructional approaches and summer maintenance.

Gary's "Parent-Child Mobile Classrooms" and "Strategies in Early Childhood Education" in Waupun, Wis., appear to reflect somewhat different approaches to the issue of preschool service. Neither program communicates any particular assumptions about learning difficulty or disability or negative accomplishment. Nor do they express major concern about later school achievement although the Gary program is interested in "quality of readiness for four-year-olds entering kindergarten."

Both programs encourage educational programming related to developmental stages. Waupun's program assumes that "cognitive development proceeds through motor-perceptual-symbolic phases," and that failure to recognize this fact could result in meaningless rote learning and experience. Gary suggests that use of its program and mobile environment has produced "joyous learning" for children and parents.

The Big Question: Linkage

Analysis of these somewhat different descriptions of motivation and intention among the projects is not meant to suggest that ultimate accomplishments necessarily vary. Similar claims about achievement can be found in programs which take different roads. Rather, the crucial question is, "What is or should be the relationship between programs in preschool and later grades?"

Most of the validated projects assume a direct linkage, indeed, a responsibility for the preschool educator to root out deficiency and disability, to eliminate learning barriers, to provide cognitive experiences and learnings which will reduce or even eliminate patterns of failure.

The validated projects' view of preschool education as intrinsic to later school success is somewhat analogous to Bereiter and Engelman's earlier views on the subject. They held that affective goals must be abandoned or at least diminished in importance in order to focus on the main issue, namely academic accomplishment. Emphasis on behavioral objectives certainly contributes to this focus. Bereiter and Engelman did not argue with concern for the child's "whole" development. They merely stressed a need for priority on the basis that:

1. The child's future must be considered; therefore, preschool education should work directly toward minimizing school failure.
2. The educational program should provide the child with experience he is unlikely to enjoy outside of school; therefore, free play might get much less attention.

3. A skillful teacher should be able to foster positive attitudes with a curriculum emphasizing specific learning objectives.
4. Teachers cannot resolve the variety of children's social and emotional problems; but, in attempting to work on these areas less time will be spent on teachers' major function—promoting cognitive development.

While some of the early work of Bereiter and Engelman has suffered disrepute, their overall statements of educational philosophy are pertinent for this discussion. Emphasis on behavioral objectives, preparation for formal schooling and typical standardized instrumentation must result in a more limited notion of the possibilities of early childhood education.

This does not suggest opposite alternatives; i.e., no behavioral objectives or interest in school goals or measurement. Rather it proposes that in establishing program priorities, the inevitable effects on the social, emotional and intellectual growth and development of the preschool child should not be overlooked. It is in the early years that the most remarkable and rapid development takes place. Emphasis on one or two of the goals does not eliminate impact on the others. Therefore, comprehensive program evaluation and replication must recognize the total needs of the child.

Recommendations

It is not possible to separate cognition from the other processes of human functioning. Certain expressions by children of attitude, control over environment and relationship to adults take place in the midst of carefully structured curriculum aimed at development of language and mathematical skills. When programs emanate from the weaknesses of children, we are in danger of providing training which may not have lasting effect. This is not meant to underemphasize the need for skill development, but merely to stress that in our justifiable concern over school failure we may miss a critical opportunity.

Early childhood education offers the finest challenge to paying legitimate homage to the "whole child." Without years of tradition impeding our efforts, we can explore the best possibilities for program development in terms of child development in the early years. A number of the Title III projects seem to have done so, although descriptive reports of the programs, and particularly their outcomes, could further clarify the best means to help a child's development.

Further delineation of evaluative procedures and reporting of outcomes are necessary. Goals should be expressed in such a way that information about program effectiveness is fairly accessible. Behavioral objectives in and of themselves need not be viewed as anathema. Indeed, they can serve important purposes both instructionally and evaluatively. On the other hand, exclusive use of behavioral objectives may limit educational endeavor or inhibit certain instructional activities because they may not be seen as contributing to achievement of the main objective.

Procedures should be established for reporting both primary and secondary outcomes on the basis of program priority, whatever the central focus of an early childhood program. This recommendation yields a further one when each project is examined with regard to the instruments used for evaluative purposes.

Use of behavioral objectives, standardized tests, locally developed instruments and pre/post designs seem to form a consistent thread through the evaluations. These techniques provide a good deal of important information about program effectiveness. The basic instruments used in some programs include:

Phoenix, Ariz.	Behavioral Checklists
Gary, Ind.	Caldwell's Cooperative Preschool Inventory Beery's Developmental Test of Visual Motor-Integration
Muncie, Ind.	SRA Primary Mental Abilities
Baltimore, Md.	Stanford-Binet Peabody Picture Vocabulary Test SRA Primary Mental Abilities Metropolitan Readiness Test
Union, N. J.	Caldwell's Cooperative Preschool Inventory Goodenough Draw-A-Man
New Albany, Miss ...	Metropolitan Readiness Test Kephart Sensory Motor

Although the examples are random, variations and similarities are evident in the other validated programs. Some tests are used across programs (Metropolitan, Peabody); some are used in only one program (Boehm Test of Basic Concepts in Cincinnati, French Pictorial Intelligence Test in Martinsburg); others are locally developed.

Obvious problems emerge when one attempts to look at inter-program relationships with cost effectiveness as an example. First, only the most rigid experimental design in the most sterile of laboratories might free us of some of the variables which impinge on areas such as child and teacher behavior or program implementation. Standardized instrumentation across even similar programs is rare, due to the emphasis on local program development fostered by Title III.

If inter-program comparisons of various dimensions are to be made, certain measurements and tests should be utilized across programs. At the same time, however, the opportunity for local determination of other instruments should not be diminished. Cost effectiveness in education remains a complex area of study which has yet to produce the kind of sophisticated procedures necessary for sophisticated decision making.

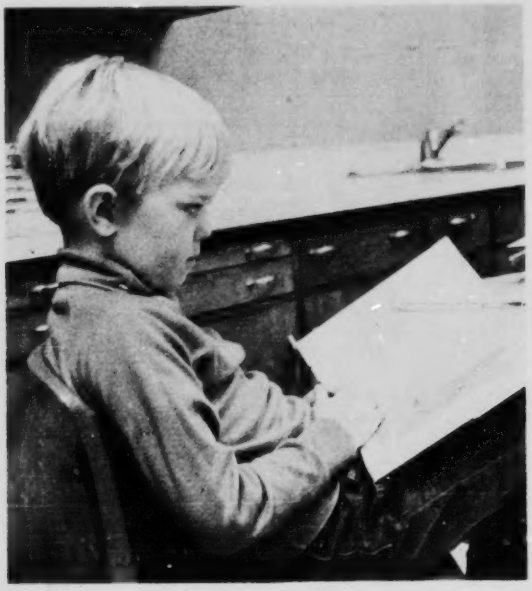
Important community effects have been reported by the various projects. Some of these suggest influence on other schools or districts as a result of the innovative Title III effort. Detroit's "Parent Readiness Education Project" has already been replicated with success in another district with partial replication in evidence elsewhere. New Albany suggests that its program may be helping Mississippi legislators consider statewide public kindergarten.

A remarkable degree of dissemination has been accomplished by the Union, N.J., project. Fifty New Jersey districts, school districts in eight different states, and a school in Tokyo have reported use of the program. Head Start programs in West Virginia have incorporated many elements of the Martinsburg project. The Gary mobile unit has been purchased by another educational corporation for use in a program called "Education Goes Calling on Wheels." These examples suggest that Title III has already demonstrated exportable programs.

The time may be ripe to look toward more specific coordinated efforts which respond to local and national needs. For example, there is a growing concern about early identification, diagnosis and correction of learning disabilities. Given the caveats mentioned earlier regarding primary and secondary emphases in preschool education, much may be learned from the accomplishments of the validated projects. Certain of the parent involvement procedures might be useful to newly emerging preschool programs as well as existing ones. Enumeration and description of Title III components such as parent involvement could increase the credibility of specific successful procedures.

The Title III projects provide a variety of curricula, instructional materials, and staff training activities that could well serve as springboards for further program development.

More should be known about impact on and relationship with the larger school systems related to the various projects. In addition, it might be useful to increase documentation about relationships to other early childhood programs, particularly those receiving federal support. Title III has obviously made important contributions to the early childhood movement. Hopefully, the years ahead will permit the deserved expansion of the programs and broader influence.



Mother and Child Learning Team

Question No. 1: Is it feasible for parents to share in their children's education?

Question No. 2: Does early intervention make a difference in later success in school?

Based on affirmative answers to those two questions, Wilson School District in Phoenix, Ariz., initiated a Title III-funded project called Mother and Child Learning Team during the 1970-71 school year. The impetus for the project was an unconfirmed suspicion among district administrators that student apathy, low academic achievement and a high dropout rate in the K-8 inner-city district partially resulted from the attitude of parents toward school.

District administrators wanted to test their belief that mothers play a major role in establishing behavior patterns, attitudes and personalities of their children. Presumably, if the mother's attitude could be improved through more involvement in the school, and particularly in her own child's education, the child would reap the benefits both at home and at school.

From a Cottage to the Bigger World

The first group of enrollees were 30 preschool youngsters, ranging in age from 3 to 5, and their mothers. Most were bilingual, reflecting the makeup of the district's population: 70 per cent Mexican American, 10 per cent black and 20 per cent white.

A certified teacher and a bilingual aide worked constantly with the children and their mothers, and supplemental services were provided by the district's psychologist, social worker, nutritionist and guidance counselor. A cottage near one of the district's schools was equipped as a miniature home to accommodate the needs of the enrollees, including a full kitchen, a sewing room and a nursery.

The goals and objectives for both mothers and children were well defined and demanding. While the children were being prepared for formal school learning, the mothers were being taught why and how they should contribute to the children's preparation. In many cases, teaching and learning overlapped. As the children learned the basics of group participation, for instance, mothers learned the value of being able to communicate with their peers and their children.

The project aimed at "total involvement" for the mothers, including activities such as:

- Assuming a leadership role in some of the instructional activities.
- Speaking in complete sentences when they talked with their children.
- Learning how to use both verbal and nonverbal reinforcement.
- Taking books home to read to their children, as well as making some instructional materials.
- Studying basic nutrition and learning how to plan, prepare and serve nutritious meals.
- Studying health care with the school nurse and child development with the school psychologist.

The Results: Positive

By the end of the first year, 23 children and 16 mothers were enrolled in the program. (Half of the mothers had more than one child enrolled.) The children recorded positive growth in five of the six objectives related to their behavior, with the greatest gains occurring in auditory-vocal and visual-motor readiness skills. These results were consistent during the next two years.

When five-year-olds were administered the district's preschool test, the results were significant. "It is readily apparent that the project children, most of whom had been in the program during the previous year as four-year-olds, started their fifth year better prepared and also gained more during the year than their counterparts in the regular kindergarten program," the project reported.

The final evaluation report of the project in June 1973 looked at the results in another way. Five of the children who "graduated" from the Mother and Child Learning Team achieved a reading grade equivalent of 2.7 or better after one year in a formal school program. By comparison, first graders in the district as a whole recorded a mean grade of 2.1.

Positive results on three of five objectives specified for the mothers also indicated growth. Three years of testing led the project to conclude: "The changes in the mothers have been positive, although not as rapid and dramatic as those in the children—as one might expect." The most growth occurred in the mothers' behavior in the home, a hoped-for outcome of the project.

Ebb and Flow in the Project

The addition of a second teacher to the project's staff during the 1972-73 school year "made a tremendous difference in the variety and intensity of instruction," according to the project's report. The mothers were instructed in smaller groups and exposed to a greater diversity of experience. They reacted by maintaining higher interest in the project. Attendance improved despite the poor attendance recorded for the district as a

whole during the year. The mothers' enthusiasm carried over at the end of the school year, when they redecorated the cottage at their own suggestion.

In 1973-74, the project was funded as a demonstration center with hopes for continuation by the district. Project staff concede, however, that such continuation could be a problem because Arizona law prohibits the use of district funds for children of preschool age. The annual cost of the program is $885 per pupil, based on initiation, developmental and operational costs.

In addition to the financing problems an adopting district could encounter, project staff say another "potential" problem—positive support—should be resolved before such a project is started. The support must come from all involved groups including the administration, faculty, school board and community. The effort that is required to garner support and find funding is worthwhile, in the opinion of Wilson school staff members, who peg the Mother and Child Learning Team as "one of the most effective programs in the district."

Teacher-aide with child

Mother and child

Mothers with children

Critique by Sheldon Rappaport

Teacher/Staff Development

As the nation's largest consumer industry, public education has been offering an inferior product for some time. In our recent history, the inferiority of the product has been patently ignored by the manufacturer, namely school administration and schools of education. They have been blindly ignoring the fact that those coming off the educational assembly line are not being properly prepared to meet the demands of their environment. Teachers need preparation in attitude as well as technique to meet the challenge of our complex technological and societal changes.

School administration and schools of education have tended to rigidify their position even in the midst of the dawning realization that we are destroying our life resources, the most perishable of which is the emerging young mind. As happens with a plant that is threatened by pruning, they have attempted to sink their roots even deeper. In so doing, they worship at the altar of achievement scores while ignoring the skills that children need for survival in tomorrow's world.

They mandate curricula and policies which rend mind from body, intellect from affect, and proliferate add-on compensatory education programs with the conviction these will strengthen an "already effective" educational system. When their arbitrarily and externally imposed criteria are not met, they condemn students as failures with no realization that students are victimized by the educational system itself.

The needs are obvious: the better preparation and education of students can come about only with the better preparation and education of teachers.

Teacher/Staff Development: Meeting the Needs

Teacher/staff development is fundamental to the majority of the 107 validated Title III projects as well as the specified goal of the 13 projects included in this category. This is as it should be. Without attention to teacher/staff development, educational innovations cannot be implemented.

Teachers cannot apply what they themselves have not been prepared to apply, in both attitude and technique. Their dilemma is not unique; change is difficult in every human situation. It is always much easier and more comfortable to continue doing what we are used to doing than to undergo the difficulty inherent in change.

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The innovative projects in teacher/staff development evince a new hope for education. At the very least, these projects are harbingers of change. In some instances, such as Atlanta's "Success Environment" project the underlying assumption is that students will be able to learn only if the educational system itself will change.

The most common thrust of the validated projects is to change the educational system by humanizing it. But how do you do this? The validated projects place emphasis on the following as some of the ways to humanize and change the educational system:

1. Classrooms must be success-oriented rather than failure-oriented.
2. Teacher/student relations must stress successful interpersonal relations and personal achievement rather than wrong answers and badness.
3. In inservice training, teachers must learn how to meet individual needs.
4. Teachers must recognize the environmental demands placed on children. This, in turn, calls for further recognition of the necessity for students to have realistic control over their own education.

The emphasis on "humaneness" in the validated projects is accompanied by the growing recognition by educators at all levels that a student's development is nurtured by success. Consequently, a common thrust of the projects is to help teachers understand how to provide the opportunities for children to feel successful within themselves and in their relations to others, while at the same time learning cognitive skills. Belatedly, but thankfully, it appears that John Dewey's concept of schooling the whole child is beginning to blossom.

The validated projects are exploring a wide variety of ways to deliver education, having mustered the courage to assert that the traditional system is not sacrosanct. Some of the projects are training teachers how to introduce the concepts of science and the satisfactions of scientific exploration to students in regions where science has been omitted from the curriculum for generations. Some projects are training personnel to make optimal use of open-space facilities as a means of enhancing learning. Others have investigated how to help secondary teachers identify individual needs in reading rather than throwing English facts at students who cannot put them to use, due to their lack of the basic skill of reading.

Teachers are being trained to use behavior modification techniques in a humanistic fashion. Some projects have supplemented the teachers' efforts by introducing students to technology. School districts are learning how to work together or in conjunction with an intermediate district, while students and teachers in a single

school are learning to relate to each other more effectively.

The important aspect of many of the projects can be summarized in one word: Involvement. The whole delivery system and the function of each person involved in it are being questioned. Nevertheless, while some districts give high priority to involving parents and other community members in the educational process, others rate such involvement a low-priority item.

Promising Areas in Teacher/Staff Development

Several of the validated projects focus on emerging and promising areas, such as the training of building principals. Results indicate that principals who have had such training find success and gratification in their new roles as educational leaders and change agents.

Another promising area being explored is helping teachers to evaluate and be responsible for furthering their own growth, in sharp contrast to the traditional system in which principals evaluate teachers. The opportunity for self-evaluation and self-directed professional growth recognizes that teachers as well as students have the right to self-development. This philosophy can serve as a force for unity and harmony within a school system. When administrators regard teachers as individuals with personal worth, teachers find it easier to regard students in the same way.

The Maumee, Ohio, project illustrates particularly well the use of self-evaluation in improving the teaching process. Teachers are videotaped as they interact with their class. The project demonstrates that teachers become more open and student-oriented when they have a chance to observe their own verbal and nonverbal reactions in the classroom.

The "Open Education" project at Millersville (Pa.) State College is the only project among the 13 that is affiliated with a college. The project aimed its thrust toward the open education concept and enabling teachers to become more proficient in everyday classroom functions, but it had another spinoff effect of particular note. The project served as the catalyst for revitalizing the college's philosophy and organization.

Most projects also report an observable and substantive spinoff effect among non-project teachers as they interact with teachers involved in a training effort. This demonstrates the principle that the traditional educational philosophy of telling teachers what to do and when to do it is dehumanizing and much less effective than allowing teachers to embark on new programs as they feel ready and willing to do so.

Successful Implementation of Programs

Certain key factors are necessary for successful implementation of teacher/staff development programs, despite the diversity of settings—from preschool to secondary, from traditional to open, from centralized centers to decentralized districts, from inner-city to suburban schools. The factors are described below:

1. *Need:* Successful implementation mainly depends on the identification of a real and strongly felt need, from within the system itself. This idea is in sharp contrast to the impetus for many of the federally funded projects of the past, where the needs were dreamed up solely as a means of getting a "fair share" of federal moneys.
2. *Commitment:* The staff not only must have a voice in identifying the need but also must be strongly committed to the undertaking. Results are usually poor when educational programs are foisted on a staff, with no choice allowed them.
3. *Involvement:* If change is to be productive and effective, the *participants* must have knowledge of what is changing, how it is changing and why it is changing.
4. *Feedback:* Evaluation of the process used to implement the project provides valuable opportunities for feedback, which in turn enables the project to shift its emphasis and to change the way the project is being implemented. In this way, the project has a much better chance of reaching its ultimate goal of finding solutions to formidable problems.
5. *Dividing the goal into objectives:* The main goal of the project must be divided into a series of objectives which allow for systematic and sequential tasks. In many instances, this means providing staff members with time for planning and identifying how the objectives are to be accomplished.
6. *Administrative support:* Such support means that the administration must be committed to the project as a means of finding a solution to an existing problem.

Future Steps

Within the validated projects are ideas which singly have great merit and which, even in their present unfinished form, could be of substantial help to many other school districts. Their value, however, could be greatly enhanced by using them in concert. Although the projects show a variety of emphases and a number of different strong points, none could serve as a universal matrix which could be adapted to local needs for a generalized but effective and economical means of staff development.

On the other hand, if components of the present projects could be synthesized so that they complement each other, a much needed universal training matrix could result. A small cadre of personnel could be carefully selected for their expertise in on-the-job training and for their ability to pull together various components into a viable system. They would need time for in-depth exploration of the projects and for further refinement of the components into a training process that would answer the needs of most teachers. Those teachers needing specialized skills could acquire them at a later time.

In addition, key personnel from the validated projects could be brought together to do further work on the training process. The resulting universal training program could be disseminated in book form and could well be a solution-oriented sequel to Silberman's problem-oriented *Crisis in the Classroom*. It could serve as an agent for extricating teachers from being victims of change to being agents of change.

Project Success Environment

The problem of inner-city education is particularly acute in Atlanta, Ga., according to Marion Thompson, director of Project Success Environment, a Title III validated project in teacher/staff development. Disruptive classroom behavior, low achievement scores, chronic absenteeism and high dropout rates all indicated a need for change from within the system.

Operating under the assumption that inner-city children consistently fail because "the classroom is set up so they don't experience early success," the project focused initially on making changes in teachers' behavior.

Teachers were trained to emphasize success while minimizing failure as a way to modify student behavior and to upgrade academic skills. At the same time, classrooms were arranged in a way that they would foster small-group and individualized instruction, and the standard curriculum was revised.

Classes in one middle school and two elementary schools in Atlanta, a total of 200 students, were introduced to the new technique in September 1971. At the end of the three-year funding period, the project had expanded to cover approximately 1,300 pupils in grades 1-8.

Teacher Training: How To Reward the Good

Teachers received training in the "success technique" prior to the opening of school. They were taught to use positive reinforcement in the form of a tangible reward, coupled with verbal praise whenever students exhibited desirable behavior. Rewards used during the early months of the school year included checkmarks and tickets that could be exchanged on a daily basis by the students for such prizes as toy watches and jewelry, comic books and model cars.

Teachers were taught that students had to be told verbally why they were receiving the reward, i.e., that their behavior was approved by the teacher. Under the system, only desirable behavior receives attention in the classroom. The teacher ignores a student who is disruptive while singling out for praise a nearby student who is acting in an approved way. When the misbehaving student takes the hint and imitates the desired behavior, the teacher rewards him immediately. Students know by looking at a brief list of rules posted in the front of the room which behaviors will be rewarded.

Conduct is stressed during the first month or so of school, with frequent and plentiful rewards on a daily basis. Toward the end of the first month, the reinforcement system changes. The teacher reduces the number of daily rewards and shifts the emphasis from tangible objects to activities. Tokens and checkmarks are exchanged for the "privilege" of watering the plants, erasing the boards, collecting lunch money or running errands to the office. Students may move up in the system, however. They may become a mini-teacher, with responsibility for checking other students' work, dispensing tokens or leading the line to lunch. The aim is ever-increasing responsibility, leading to a feeling of competence and self-worth for the student.

Tokens also may be exchanged for free time in the activity room, where students may while away up to 30 minutes by playing with a variety of games.

Shifting the Focus to Academic Success

Based on evaluation data collected during the first year, the in-class behavior of pupils involved in the project improved considerably. By April, the attention level of the project pupils was 90 per cent while that of the comparison group of students ranged from 55 to 60 per cent. More important in fulfilling the project's objectives, project pupils were less than half as disruptive as comparison pupils.

Results of the first year showed an increase in academic achievement only among project students at the third-grade level, with all other levels comparatively equal. Therefore, reinforcement for academic behavior was stepped up. The change paid off. Pupils gained significantly more than control groups in both reading and arithmetic in both the second and third years, according to hard data collected by the project. The control pupils achieved at least one month's gain in subject areas for each month they participated in the project. This led project staff to conclude that reinforcement for academic achievement must begin early in the school year, as soon as classroom control is established.

Academic aptitude was improved for five of the six grade levels tested, as measured by standardized IQ tests administered during the second year of the project. Students in the project gained an average of 5.98 points from the pretest in September 1971 to the post-test in April 1972. The comparison pupils averaged 2.51 points. In the fourth-grade class, where 81 per cent of the students had been in the project for two years, the students gained almost 14 IQ points in eight months.

Performance on the psychological tests was more variable. The evidence indicated, however, that students in the project came to accept more responsibility for academic success or failure. No substantial changes in self-concept were found.

Modifications in standard curriculum materials eased the shift in emphasis from conduct to academic achievement. Material was divided into units of work that a student could complete in a day's time. Teachers started to evaluate the work on a daily basis and to reward good performance immediately. They learned to encourage students toward academic improvement, instead of fussing at them for not listening to directions or not being prepared. Students are rewarded when they begin work,

when they complete it, and for mastery of a subject or area.

The traditional classroom arrangement also had to undergo modification to allow more flexibility for teachers and students. Each class is now divided into three flexible groups who sit at desks arranged in a U-shape. Interest stations around the room contain art, games, puzzles, library and exploratory materials.

Viable Teacher Training

Project Success Environment claims it has found viable solutions to the problems of cost-effective, exportable teacher training. It notes that the cost of initiating the success technique will vary considerably depending on the availability of materials and the extent of the technique. The cost is higher if the behavior modification techniques are applied to both conduct and academic behavior rather than restricted to conduct.

How much staff is needed to get such a project under way? The answer would probably depend on the extent of the project and the amount of help the district could receive from a "veteran" in the concept, such as the Atlanta project.

During the third year of Project Success Environment, the staff included a director, two coordinators, two lead teachers, an evaluator, a research assistant, a behavior management technician and a technical writer. The coordinators worked directly with principals in the ongoing supervision of teachers and in obtaining necessary materials. The two lead teachers and the behavior management technician worked directly with each of the project teachers to improve their use of the success technique. The project evaluator and the research assistant designed and evaluated the program in conjunction with consultants from Emory University and monitored the in-class data collection.

The project has developed a four-day teacher training workshop based on its "Training Package for Principals." It encourages schools that are interested in starting the program to send a principal and two teachers to a workshop, where they are trained to apply the techniques and to administer the programs in their own schools.

Current Status of the Project: Ongoing

As evidence of its success, Project Success Environment received $90,000 in the 1974 budget of the Atlanta Public Schools to establish the program in a minimum of 10 additional schools, including one senior high school. The Georgia Department of Education also awarded the project $169,000 to train principals and teachers from around the state in the success technique.

Marion Thompson concludes that the project has proved that a successful environment contributes substantially to students' success in school. "For all concerned," he says, "school has become a more pleasant place to learn and to work."

Good work pays off

At exchange time, everyone's happy

Critique by Alan Voelker

Environmental Education

The environment has *not* been recently discovered. As early as 1864 George Perkins Marsh acknowledged that a change in the surface of the land, accompanied by some suppression of natural productivity and subsequent stimulation of artificially modified productivity, was necessary to fulfill man's basic needs. But he felt that man had already exceeded reasonable limits of consumption and was engaged in aggressive satisfaction of wants.

An environmental dilemma stemming from man's interactions with the land is *not* new. Recognition of the need to seek harmony between man and land has been with us for ages.

Neither are environmental education programs entirely new. For over 100 years, attempts have been made to teach people to respect the land rather than abuse it; to see interrelationships and interdependencies. But the groups involved dealt with only a fragment of today's environmental education for they failed to grasp the complexity of man/land interactions.

The blame is not wholly theirs. Not until the last decade did the general populous show signs of tuning in. The public and program developers started to see that we were dealing with something enormously complex—something involving beliefs, attitudes, environmental perceptions and value structures. Providing conceptual knowledge *about* the environment was not adequate to guarantee that respect *for* the environment would develop in all persons. To educate about the environment meant to develop an environmental ethic.

One who possesses an environmental ethic uses maintenance of environmental quality as a damper on fulfillment of his wants. He can distinguish between basic physiological and psychological needs and wants, returning much to the environment even as he derives his sustenance from it. He realizes that ecosystems are delicate and that man's aggressions increase the probability of exceeding their elastic limits.

An ethic-oriented environmental program helps the individual see how his personal actions, singly and collectively, either enhance environmental quality or promote environmental degradation. Such a program seeks to create an awareness among people of the fragile nature of the environment and a capability to make decisions based on that awareness.

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Title III: Impetus for Environmental Education

Title III has provided a vehicle for those who see the big picture to foster development of an environmental ethic and an opportunity to get the ball rolling at the local level. The progress is dramatic and increasingly more sophisticated.

Evidence of how Title III projects have advanced to encompass today's environmental education is found in an examination of the validated projects and other projects funded in 1972-73. They focus on curriculum from preschool to postsecondary levels. The areas of emphasis include the cultural relationship of man to the environment, aquatic resources, urban environmental studies, interdisciplinary programs, improving aesthetic perception, survival, community action, pollution control, student-centered programs, open-air laboratories and recreation.

Project personnel are demonstrating that they can successfully deal with one or more facets of environmental education appropriate to local needs and resources. Environmental education activities are growing in quality and quantity through local impetus. One task that remains is to combine present activities so that future activities are as comprehensive as possible.

Development of an Environmental Ethic

The sense of an environmental ethic has been captured by several projects. Collectively, the eight validated projects have touched bases with most components of an ethic. Two projects (New Castle, Del., and Yarmouth, Me.) touch many bases. Three others (Ames, Iowa; Chesterfield, Mo.; and Chester, S.D.) cover fewer components, but give ample evidence of an ethic orientation.

Many projects emphasize conserving and preserving resources. Some illustrate how to correct environmental problems or how to develop a commitment to *prevent* environmental problems. Others emphasize a way of thinking designed to lead to sets of values and behaviors and a level of commitment commensurate with a quality environment.

Even those with an environmental ethic, however, do not always possess the conceptual knowledge and awareness to facilitate desired actions and behaviors. Many of the validated projects developed this necessary knowledge base, an important fundamental step, and others have achieved this goal as a side effect.

Most programs emphasize the concepts of interaction, interrelationship and interdependence. All illustrate and develop the idea that man is dependent on his environment. Most projects take into consideration man's impact on natural and manmade environments. Two of the projects (Hamilton, Mass., and Union, N.J.) illustrate the threat posed by technology.

Major dimensions of the Union, N.J., project are environmental change, conservation and preservation. Much

emphasis is placed on understanding and developing the various legislative and social processes that can be used in effecting pollution control. In addition, other projects give consideration to economic controls and behavioral processes as useful knowledge for decision making.

Some projects include knowledge of how ecological relationships give rise to specific control techniques for use in resource management. One project provides knowledge of alternative choices and practical decisions that can alleviate problems. There is some inclusion of data analysis skills and in at least one project there is a definite plan to develop personal decision-making skills.

Environmental Awareness: A 'Must'

Another "knowledge" dimension is awareness of current problems and happenings. This area is well covered by the validated projects. Two projects (Ames, Iowa, and Yarmouth, Me.) deal with the nature and complexity of environmental problems, the availability of resources, conservation practices in operation, man's impact on the environment, the effects of population numbers and affluence, the global nature of environmental problems, and actions to alleviate problems.

In six of the projects, students are learning how to make appropriate environmental decisions based on what is going on in their environment—equally as important a basis for decision making as abstract knowledge and simulations.

In many projects, students have contact with natural sites, nearby and far from their schools. In one instance and to a lesser degree in two others, disturbed sites are studied. Two projects (Ames, Iowa, and Chesterfield, Mo.) have developed mobile laboratories to transport students to diverse sites.

Three projects have developed extensive working relationships with agencies which have environmental study areas. Students encounter the environment regularly, and no longer are restricted to excursions on sunny days in autumn and spring.

The Yarmouth, Me., project has planned a sequence of activities that take students from personal considerations in their immediate environment to the region, the state, and ultimately to the world environmental problem. The Poplar Ridge, N.Y., project also stresses the idea that the world is our environment.

Four projects deal specifically with man's disdain for the environment, particularly with regard to air pollution, water pollution and solid waste disposal. Absent from most programs, in a planned fashion, are the problems of population numbers and affluence.

From a conceptual perspective, most pieces of the ideal environmental education program are present in one form or another in at least one project. Fortunately, these pieces are found in more than one project.

The Affective Domain: Weak

If there is a weakness in the projects, it is in the affective area. The affective dimension has not been ignored, but many program developers assume that affective dimensions—values and beliefs—will naturally evolve from involvement in other activities. Exceptionally strong programs are found in Ames, Iowa; Yarmouth, Me.; and Poplar Ridge, N.Y.

Environmental decisions can be substantially influenced by one's perception of himself and how well he feels he can control his destiny. The Ames, Iowa, and Hamilton, Mass., projects emphasize development of the individual's self-confidence in his understanding of environmental problems. Once a good self-concept has been established, students have greater concern for others and for environmental quality and societal survival. Approximately half the projects involve students in teamwork with their peers and other citizens.

The Curriculum: Multidimensional

From a curricular standpoint, there is more and better coordination of in-school and out-of-school activities. Nearly every project has a plan for vertical articulation of the curriculum from kindergarten through high school. A notable strength of the projects is the emphasis placed on interdisciplinary programs and multidisciplinary contributions to achieving outcomes. In at least four projects, six or more subject areas contribute to the program's activities.

Placing faith in the ability of local people to perceive needs and initiate programs has produced a commitment unheard of when materials and programs are created by outsiders. Yet, there is no apparent loss in quality of the product. The ability to adapt programs and materials to fit local needs is more productive than the "adopt as is" philosophy often foisted on consumers by curriculum developers.

Involvement of Students and Community

An ideal environmental education program hinges on student involvement, an obvious strength of the validated projects. Three-fourths of the programs provide specific opportunities for student activity outside the classroom. Students study the environment near the school and in the community, and they study people's actions and the behaviors exhibited toward that environment. Over half of the projects include quantitative studies where students gather data about problems and make decisions about possible actions. In one project (Yarmouth, Me.) students identify and develop the study sites for use in their programs.

Two projects (Yarmouth, Me., and New Castle, Del.) devote considerable effort to giving students experience in working with decision-making bodies. In Ames, Iowa, students work with individual community personnel and civic groups and some work with governmental agencies and industrial and business personnel. Project Adventure in Hamilton, Mass., is heavily involved with social agencies.

How To Build a Successful Program

Every project depends on key personnel, who plan the program's content and maintain its ongoing effort. In turn, the success of the projects can well depend on the education and re-education of school personnel. This is one of the strongest features of the validated projects.

Five projects have devoted extensive effort to educating teachers in the use of available resources, development of local leadership and local materials, team teaching, acquiring ecological and environmental knowledge, development of values, interests and attitudes toward the environment, and the use of diverse sites outside the classroom.

The techniques used by the projects can yield tremendous insights into the mechanics of environmental education for teachers. Both short-term and long-term activities are conducted for inservice teachers and prospective

teachers. Some projects have had a decisive impact on undergraduate and graduate education at local colleges and universities.

Several projects are doing an excellent job of converting ideas and strategies into materials suitable for adoption or adaption by others. Three-fourths of the projects have prepared materials for local use and over half distribute materials at little or no cost. Materials prepared in Union, N.J., and Poplar Ridge, N.Y., have already been field tested.

Although the dominant materials are units and activities dealing with limited topics, several projects have produced teacher's guides, environmental inventories and general models. In three instances, extensive resource centers and support systems have been developed to facilitate programs.

In addition to the more classical development activities, two projects (New Castle, Del., and Yarmouth, Me.) have invested substantial personnel and financial resources in the identification and development of sites where students can work. These sites are being developed in close proximity to schools and adjacent areas within the community.

Another strength of the projects is the identification and use of existing resources. This speaks well for their expertise. To concentrate efforts on developing "artificial" facilities that put students into contrived situations often detracts from the use of the real world laboratory.

The Ames, Iowa, project has developed an extensive inservice program, and Yarmouth, Me., has developed planning operation for use by other school systems. Each project has some form of workshop and followup activity available. The Yarmouth, Me.; Union, N.J.; and Ames, Iowa, projects have several resource persons available to help start and sustain programs.

The Ames, Iowa, and Yarmouth, Me., projects use multiple communication forms to keep others up to date on their progress and success. The projects in Poplar Ridge, N.Y., and Chester, S.D., have developed sophisticated techniques for informing local citizens about their activities. The Yarmouth, Me., project works from a state perspective, giving it a strong multiplier potential.

Ongoing Progress Evident in Programs

Improvements in projects are evident on many fronts, including:

- Evaluation of project activities continues to increase in sophistication. The New Castle, Del., and Chesterfield, Mo., projects include a design for observing behavioral change.
- Project personnel are better trained in research and development skills and have a considerably expanded view of environmental education.
- Program yield is improving.
- Locally developed instruments are of higher quality for measuring cognitive knowledge and evaluating affective concerns.
- Psychometric characteristics of instruments are being established in more sophisticated fashion.
- Students, parents, teachers and community members are giving feedback on the projects.
- Over half of the projects provide evidence of students' increased environmental knowledge.

Philosophically, we have made great strides. The strengths of the outdoor and conservation education movements have been captured and expanded. Community involvement has become a fundamental ingredient of worthwhile programs. Developing an environmental ethic and helping participants acquire sophisticated decision-making skills are recognized by most as the ultimate goals of an environmental education program. Both the explicit plans and the side effects are contributing to the big picture.

The initial momentum has slowed, but those who will make lasting impact are still pitching. Most grantsmen have left, but those with insight and commitment are persisting and steadily improving their approach. There is a substantial pick-up of the best of other's work. The amount of output per dollar is great in terms of ideas and procedures.

Broader educational changes consistent with environmental education are also taking place. The hard lines between subject areas are not so carefully protected. Students demonstrate a better attitude toward school because teachers are recognizing that schooling is only part of an education. The opportunity to study and deal with real societal problems is making schooling meaningful for many students. Schools are becoming part of the community again; real problem solving is becoming a part of the school curriculum.

Recommendations

1. *The "how to" ideas available from the projects have not been distributed widely.* Each validated project has several things worth distributing on a large scale. Examples include:

   New Castle, Del. The concept of "environmental conscience" and procedures for involving students in studies of natural and disturbed sites.

   Ames, Iowa. The involvement of students in real world situations and the mini- and mobile-labs for taking students to various sites.

   Yarmouth, Me. The master plan for developing a comprehensive program illustrating how environmental problems grow from local to world complexity.

   Hamilton, Mass. The development of students' self-concept and the infusion of Outward Bound concepts into school programs.

   Chesterfield, Mo. Procedures for site development and the teacher education system.

   Union, N.J. The development of instructional materials and action processes for alleviating environmental problems.

   Poplar Ridge, N.Y. The design for a resource center and follow-up procedures for continued inservice education.

   Chester, S.D. The design for promoting changes in behavior toward the environment and the means of attacking specific local problems.

2. *The validation process must be retained.* It is responsive to national needs and produces results pertinent to the local scene. In addition, it insures that projects are innovative and that developers produce the effects they propose.

3. *More input is needed from the social science and the humanities.* More effort also must be placed on developing programs as an integrated whole.

4. *The strengths of all existing projects should be identified.* The results could help determine which new proposals should be funded, thus enhancing the probability that projects would produce "workable" prototypes.

5. *Local projects need guidance in developing materials.* Similar thrusts would be repeated only if materials had to be modified for use in different contexts.

6. *Surveys should be conducted to determine the full impact of projects.* More information about projects would allow consumers to make stepwise decisions in determining whether to initiate some form of a program.

7. *Resource personnel should be made available from "successful" projects to help districts that are interested in adopting or adapting a project.*

We have work to do. At the same time, we've come a long way. The potential for the future is even better if we do not allow ourselves to be sidetracked by outside pressures and irrelevant criteria for judging our success.

Maine Environmental Education Program

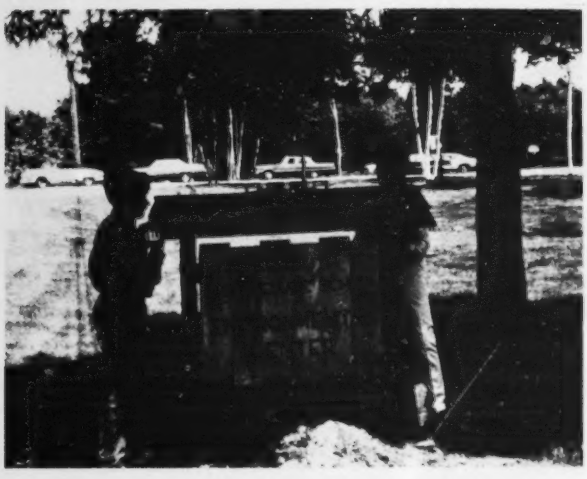
How do you get beyond the hypothetical questions posed in a textbook to identifying and finding solutions to the real life problems present in the community?

In 1968, administrators and teachers in the small coastal community of Yarmouth, Me., attempted to answer that question by involving 1,200 students in a locally funded project in environmental education.

Three goals for all citizens were identified by the program: knowledge of the total environment and man's relation to it, participation in skill development activities designed to improve the environment, and motivation to do so. The program also aimed at identifying teaching techniques and learning experiences that were interdisciplinary, relevant, conceptually sound and oriented to decision making.

How the Project Works

The program was originally set up to be schoolwide with participation by all Yarmouth students. Students in kindergarten and first grade were confined to school boundaries as they learned about the environment. For second and third graders, the neighborhood became their concern, while grades 4 and 5 focused on the community and grade 6, on the region. Students in grades 7-12 were encouraged to focus on a statewide, nationwide and worldwide basis. Similarly, while lower grade students (K-6) were to follow a sequential program of field trips and classroom presentations, the program in grades 7-12 was more flexible. Students could become involved in both group and independent activities requiring them to identify and solve problems by investigation and evaluation of in-the-classroom and on-site problems.



After the initial year, three nearby school systems joined in the project, each picking up one-quarter of the project's expenses. Following this successful expansion, the project went statewide under Title III funding and became known as the Maine Environmental Education Project.

Four school systems were selected for participation in the statewide project. Each system selected a qualified and experienced teacher to train at the University of Michigan in a master's degree program in environmental education. The teachers are now back in their home districts, serving as coordinators. They are developing programs tailored to local needs.

During the second and third years of the project, the project director and field consultant worked with other school systems in making recommendations for the best use of community resources; school site planning, development and utilization; planning and implementing a resource center; curriculum planning, implementation and evaluation; organization of teacher training; and development of specific project resources.

Teachers are encouraged to relate subjects to the local environment where students may participate in first-hand learning experiences. Teachers, students and local government personnel receive a set of guidelines for compiling information on the community. In addition, all groups have information and plans on school and community study sites. All levels of the community are getting involved in project activities, and interest in the project prompted support of a special master's degree program by the University of Maine at Orono.

Evaluation of the Program

A State Title III evaluation team gave the program consistently high marks in reaching its objectives. It focused attention on the project's development of a practical model for integrating environmental education into ongoing K-12 curricula in diverse districts of Maine and with potential for national application.

In evaluating student outcomes, the project report states that students in the experimental group increased by 7.5 per cent their ability to evaluate their environment and identify problems. They improved their problem-solving skills by 10.9 per cent, but showed no change in discovery-inquiry skills. The evaluation outcomes were predictable, according to project staff, since the school traditionally stresses discovery/inquiry or investigation, but does not often emphasize how information is to be evaluated and problems are to be solved.

Costs: Development and Operation

Developmental costs for the Title III effort averaged approximately $7 per student over a four-year period, according to the project report. If a coordinator's salary is figured into the cost to an adopting district, the per-pupil cost for the first year would be about $5.50, and about $3.75 per pupil per year for continuation.

The Maine project notes that all satellite demonstration programs initiated under Title III are currently operating with local funds. It is also involved in developing programs that can be run by classroom teachers, with assistance and support from citizens. Although such programs may appeal to school systems because of the small amount of money required, the project maintains that they are not as effective as those under the direction of a coordinator.

After Five Years: What?

The fever pitch of the first year's activity has slowed, but the project is continuing after five years. A resource center continues to offer students additional exposure to information and materials. It contains charts, maps, games, field equipment, audiovisual aids and mounted specimens.

Community volunteers lead field trips and actively support the project in other ways. When funds were needed for construction of a pond, for instance, four community organizations contributed substantial amounts. One supporter deeded to the town 20 acres of field and forest in the middle of a rapidly developing residential area to be managed and used by the environmental education program.

Students investigating air quality with a portable air testing device.

Critique by Donald J. Barr

Curriculum Improvement

The 23 validated projects in the curriculum improvement categories vary in their content and purpose. At first glance it would appear that they do not belong together, but even the dictionary defines curriculum as an aggregation of courses of study given in a school. What has never been simple is the decision of what content should make up the curriculum and how the whole or its parts should be transmitted for learning.

Educators seem to agree that the core of the curriculum is made up of the three R's. Curriculum "innovations" generally have been directed toward teaching the same content—including the three R's—but teaching it differently.

Innovations in other areas of education affect what happens to the curriculum. In the last 15 years, for instance, education has gone through a series of experimental programs like team teaching and modular scheduling. Alternative schools, another innovation, have been designed to experiment with the whole of curriculum but change has been directed primarily at questions on the process of learning within these schools. Documentation is scarce on what is successful as a result of the experimental programs, and why it is successful.

Another question that arises is whether change is made for the sake of change or if curriculum innovations result in knowledge that will be useful for the student in today's and tomorrow's world. Seldom have those who planned innovations looked beyond immediate achievement or objectives which stress attitudinal outcomes.

Prior to tackling the job of evaluating the 23 projects in curriculum development, I had little direct contact with Title III projects. I approached the task with a fair degree of skepticism because "innovation" has usually meant examining parts of the curriculum and seldom confronting questions of curricular ends, freedom, responsibility. My skepticism vanished somewhat after reading the project reports and validation reports because of the amount of genuine enthusiasm expressed by project participants, teachers and evaluators. Something good seemed to be happening; the data supported the changes being made and stated objectives generally were being met.

Curriculum Innovations: Change for What End?

Following are the criteria used to highlight innovative features of the projects. They try to look past immediate "success" data and raise the question of "change for what end?"

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Criterion 1:

How did the decision get made to become involved in the project? Were current issues related to speculation about future needs?

The decision to embark on the 23 specific programs originated within the local school districts, placing the responsibility for design and implementation at the local level. The state and federal government maintained a consultant role. Projects got started in the following ways:

- Someone in the district was particularly interested in a curriculum area and wanted to develop it. Dramatic illustrations include Media Now and the Urban Arts Program, where local commitment and resources were important in building the program.
- A broad assessment of local needs was undertaken in a few of the 23 projects. In Ocilla Ga., the needs assessment conducted in Project HOPE revealed startling deficiencies in many educational areas. Community involvement in the project indicates that an initial assessment may be particularly important for long-term positive results and continuity.
- The idea was "borrowed" from another school district. Projects that seem to have been initiated due to an external force include those in New Haven, Ind.; Lakewood, Ohio; Hopkins, Minn.; Wilmington, Del.; and Bowling Green, Ky.

No matter where the idea for a project starts, it seems critical to genuinely assess local needs before moving ahead on the project. Results seem clearer when this is done. Good examples are Project HOPE and Media Now. Both projects make adjustments based on community needs.

In one project, which had no students or parents on the planning committee and which used outsiders to design the assessment questionnaire, the results indicated change was not viewed from an educational/learning norm.

The critical point in the planning, implementing and evaluation of a project is the balance of internal and external information, concerns and needs.

Although behavioral outcomes related to student needs for the future were implicit in initiating the projects, such issues seldom surfaced or were dealt with directly. Most projects assumed that students were not being effectively taught math, science, physical education, reading and humanities and that better ways could be designed. "Better" usually meant teaching in ways that would result in better performance by students on achievement tests, although the question of why students should be taught "better" was mentioned only briefly by a few project reports.

The LRC Computer Network project clearly stated that learning to use computer technology was important for living in society. The project set out to improve technological learning in the rural area and it has been successful. However, questions of the ethics of computer use and the potential impact of technology on humanity were not raised. Nor were they raised in a related project, Learner Orientation to Technology.

Two other projects—Occupational Versatility and SPHERE Inc.—also address themsleves to future-oriented issues. Occupational Versatility concerns the appropriate use of industrial tools, while SPHERE Inc. is responding to the long-term needs of "disadvantaged" children. Generally, the programs are patching up deficient learnings.

Criterion 2:

Are content areas in the curriculum interrelated to each other through the teaching process or knowledge utilization efforts?

Learners by the thousands are being cranked out of schools today with blinders, with little understanding of the purpose for learning the relationship between content areas, or the learning or interaction process between schools and society. The fetish for specialization in our schools is producing a great many knowledgeable people —but people who are incapable of relating what they are doing to anyone or anything else.

Those who conceived the 23 projects, like most educators, tended to be parochial about the content area in which they were involved. In planning, implementation and evaluation, they tended to view success or failure totally from within the context of their particular area. Individuals involved in developing projects did not appear to question the impact which learning in the project might have on other areas of study, nor did they address themselves to questions of knowledge utilization.

Projects like the Pre-Algebra Development Center, the Wyoming Model Laboratory Mathematics Project, the LRC Computer Network and the Laboratory Science in Clover are examples of parochial projects.

Some of the projects that hoped to have influence in other content areas were Project MOPPET, the Urban Arts Program, the Multi-Media Approach to Learning, Occupational Versatility, and Exploring Creative Frontiers.

In these projects, some insights were discovered about teaching a specific content area. However, data are lacking to show that what was being discovered also was being communicated and applied in other areas. For example, when I inquired of Project MOPPET what impact it was having on the teaching approach used by other classroom teachers, project personnel responded "very little." They said they did see this as an important need. As an outside evaluator, I believe the direct confrontation of the project to the traditional form of teaching and learning has clear messages for many areas of study. Teachers from any area of learning could learn from observing the process being used in MOPPET.

Some projects tried to look across the entire curriculum. Two in particular are the Dale Avenue Urban Childhood Education Project and the Drug Abuse Education Program.

In the Dale Avenue Project, all teachers are required to teach reading for the first 45 minutes every morning. As a result, the music, science and physical education teachers have had to develop means of teaching reading within the framework of their content areas. What the music teacher was doing to teach reading is one of the innovative features of that project and should be taped for dissemination. Students move from breaking codes through symbols to putting words with the symbols, while playing small African drums, miniature violins and electric pianos. The students often make up their own words for the symbols.

Unfortunately, even these projects fell short of continuously questioning and probing content and process relationships in learning. Only if this begins to happen will the learner be better prepared to use the knowledge he has gained to cope with living in today's society. If questions of process could be addressed across disciplines, as well as within disciplines, teaching and learning rather than economics and procedural issues would have a much more central focus for curriculum development.

Criterion 3:

Are new materials being developed that enhance curriculum development?

A great deal of material coming out of these projects appears to have potential for dissemination across the country. Most of the projects are experimenting with various ways to present substance.

Projects with materials ready for dissemination are Media Now, Dale Avenue School Project, Project MOPPET and Wyoming Model Laboratory Project. Those in the process of writing materials for dissemination include Drug Abuse Education, Occupational Versatility, Exploring Creative Frontiers, Conceptually Oriented Mathematics, and Basic Skills through Practical Arts. The materials originate from the grassroots and go through rigid pilot testing by students, parents and teachers. For these reasons, they appear to be deserving of national dissemination.

Dissemination should include a description of how materials were tested and the outcomes they are designed to achieve. Projects like the Dale Avenue Project and Media Now are doing face-to-face training programs with other faculties before releasing the materials—a valuable but time-consuming step in the dissemination process.

Criterion 4:

Are learners being challenged to evaluate critically the mass of information in schools and society?

An obvious explosion of information is flowing toward young people through television, paper materials, recordings and lectures. One sees a passive readiness to accept nonsense as valid. Unfortunately, educators do not seem to be assuming much responsiblity for helping students to separate the garbage from the substance in the information flow.

The development of skills for critically evaluating the validity of information should be an important learning outcome in today's schools. But little has been done in the 23 projects to teach these skills and even less has been done to help students build toward constructive change. Technology-television and computers were often used in the projects as part of the teaching techniques. Projects like Decision Making Through Inquiry and Media Now had some critical skill learning objectives. The Media Now Project found that students who partici-

pated tended to resist persuasion of media messages more than the control group. Except for this finding it was difficult to locate data on whether students were being confronted with critical listening, observation and thinking skills.

Criterion 5:

Are students being taught the relationship between freedom and responsibility?

Handling freedom with responsiblity is a major stumbling block to responsible citizenship. Few efforts have been made in curriculum development to confront students directly with their responsiblity and accountability for learning.

The projects did not generally place freedom and responsiblity as a primary outcome objective, although I am sure that issue was very much a part of many programs. A notable exception is the Occupational Versatility Project where a core objective is helping industrial arts students to be managers of their own learning. Students select what they want to do, how they do it, what materials to use. They keep their own records. The teacher is defined as safety foreman and facilitator of student learning. Results of this project are enthusiastic and impressive, and the model has definite implications for teaching areas besides industrial arts. The project's leaders challenge the learner to determine direction and motivation and to be accountable.

Criterion 6:

What has been learned about teaching affective growth?

Even though affective growth was not stated as a primary objective, many of the validation reports described a positive change in students' attitude toward self and school. One of the important outcomes from these projects is how they were able to balance and integrate affective and cognitive learnings.

The Multi-Media Approach and Learning Project had as a major thrust the development in students of a positive self-concept. Other projects like Basic Skills Through Practical Arts, Educational Services for Pregnant Teen-agers, Project HOPE, Drug Abuse Education, Constructive Control of Behavior and Multi-Media Approach to Learning also included affective objectives. All projects had difficulty quantifying affective changes, although they could be a rich source of subjective data on affective growth.

Criterion 7:

Are the projects experimenting with multiple processes for transmitting knowledge?

A strength of many projects was their commitment to investigating and evaluating new and different means of teaching. In the projects related to the arts, science, mathematics, physical education and many others, a basic rationale for the project was dissatisfaction with the narrow way material was being transmitted to the learner. Generally, the projects seemed to confront the idea that students need to understand the form in which something is being taught in order to learn. The projects explored various processes of interaction for teaching and learning, rather than relying on a single form.

The Conceptually Oriented Mathematics Program was primarily designed to break the textbook mold in teaching mathematics by using small-group instruction for students who previously had not succeeded in mathematics. The nature of instruction and the materials are not dramatically innovative, but sound and open educational practices are indicated. The project effectively taught mathematics by integrating material that suited the student's stage of development.

Projects that appear to have the most potential in disseminating material on multiple teaching and learning processes are: Pre-Algebra Development Centers, Dale Avenue Project, Project MOPPET, Wyoming Model Laboratory, Media Now, and Urban Arts Program.

The areas in which the projects have important implications for curriculum development are:

- Local assessment of needs, along with outside help in developing the program (i.e., Project HOPE).
- Use of community and area resources to improve the teaching and utilization process (i.e., Urban Arts Program and Multi-Media Approach to Learning).
- Production and training program for the use of new materials in curriculum development (i.e., Media Now and Dale Avenue School Project).
- Improvement in the achievement performance of students.
- Insights into the projects' integration of affective and cognitive learning, which may have resulted from: teachers' belief in students' ability to learn; teachers' commitment to the projects, communicating to students a sense of purpose and excitment; a sense of camaraderie among teachers and students involved in the experimental projects; and a sense of hope that things can get better.

Dale Avenue Project

Although most inner-city schools are not performing at the national norm in reading and math, Dale Avenue children who have had a performance objective curriculum from prekindergarten are at or above the national norm in reading and math at first and second grade.

That claim is made by the Title III-funded Dale Avenue School in Paterson, N.J. The prekindergartners who followed the performance objective curriculum for three years progressed from a point of entry in 1969 where their mean IQ was "well below the national norm" through the second grade, where their mean IQ registered 100.

The progress made by the students has led to widespread interest in the project. Dale Avenue School, an air-conditioned and carpeted facility renovated from an abandoned warehouse, serves an integrated urban population. It has responded to the public's interest by opening the facility to visitors one day a week and by encouraging other systems to draw on its trained staff and developed materials.

How the Project Got Started

District administrators realized soon after the opening of the school in February 1969 that staffing was insufficient to complete a needs assessment of the urban population and to develop the kind of curriculum that could respond to those needs and provide individualized instruction for students. The district requested federal funding under Title III and in October 1970, its request was met with a $91,900 grant. The needs assessment was well under way, and 381 children were actively involved as participants or control group students during the first year.

The performance objective curriculum was used for part of the 1970-71 school year, with all 550 students in the prekindergarten through third level placed under the system the following year. Performance objectives were developed in the area of listening, naming, observing, speaking, perceptual motor skills, writing and motor skills, classification, math, decoding and seriation. Students are pretested with the performance objectives and then placed in groups according to their accomplishments.

The number of staff involved in the project steadily increased. During the first year, for instance, only the prekindergarten and kindergarten teachers, aides and administrators were involved in training. During the last two years of federal funding, all staff members participated in teacher training workshops, which concentrated on understanding the inner-city child and language development, as well as how to use the performance objective testing program, the audiology program, and the methods and materials in perceptual training, math, reading and individualization.

How the Program Works

The adult/student ratio varies, with the younger children requiring the most attention. In the prekindergarten, one teacher, an aide and an associate work with 15 children. At the kindergarten level, the ratio is approximately 1:12, with a teacher and an aide assigned to an average size class of 24 students. Nine aides divide their time among 15 teachers in the first through third levels.

A unique part of the Dale Avenue approach involves all children in levels 1-3 in a homogeneous reading group for 45 minutes daily. The groups are small—from 5 to 13 students—and all teachers, aides and specialists take part in the sessions. Individualization occurs with the matching of the child's needs to the instructor's expertise.

The art teacher uses her skill in visual perception to aid students who have difficulty in recognizing letters. The music teacher combines music and reading skills in

A corner big enough for two

What does it feel like?

instructing a group of students who have auditory problems. The home economics teacher works with third-level students who have not been able to learn to read in any other group. She basically concentrates on vocabulary-building by interesting students in words related to the kitchen, food, recipes and marketing. Children who experience difficulty in speech and language join the group coordinated by the speech therapist.

The staff has developed its own tests to identify deficits in the child's cognitive skills as an aid in grouping. The performance objectives are used as both a curriculum and evaluation instrument. Teachers systematically record both student progress and student gaps in order to individualize instruction according to indications of need for a different approach, pacing or grouping.

Is the Program Effective?

The project bases its claims of "success" on the results of standardized tests, staff-made tests, and achievement and behavior-rating tests. Children who entered the prekindergarten with emotional, speech, perceptual or learning problems or with little or no ability in using standard English are now functioning at the national norm in IQ, performance and behavior. Prekindergartners who did not know their own names on entering the program could "think, verbalize and proudly perform" by the end of the first or second level, according to the project report.

The four-member validation team that assessed the project in December 1972 concluded that "behavior can be modified and test scores can be raised significantly when an ameliorative program based on an adequate needs assessment is formulated."

Is It Exportable?

The project puts its developmental costs at $1,440 per child, but it says cost for replication or adaptation would be minimal. The four validators agreed with the project's conclusion, adding some helpful hints for adopting school districts. They noted, for instance, that a district might have to add some audio equipment, cassette and phone sets—most of which was already available to the Dale Avenue School.

The validators noted that a school undertaking the project should plan to devote several weeks to "high-level inservice education for the teachers." This should include work with the program and with parents and appropriate social workers "to gain a sympathetic understanding of the background of the children." Appropriate activities for parents of children in the targeted area could include some of the social work activities, such as gathering and distributing clothing when needed by children, and fixing snacks and lunches.

"The success of this program," said the validation team, "is due to some substantial degree to the enthusiasm and knowledge of the staff. There is constant, positive monitoring of the program. A school principal would have to provide this leadership. Unusual combinations of people are put together—older teachers just returning to the profession with younger ones just out of college, older aides with younger teachers."

The validation team ended its report by inferring that the Dale Avenue staff members, who operate as a knowledgeable and highly professional leadership team, may be the reason why the performance objective curriculum is working.

Project Pegasus

Project PEGASUS aims at solving one of the most critical education needs in the country—reading—and it does so in a way that seems to back its claim of high exportability to other districts. The project is serving 1,300 students in a targeted school and three satellite schools of Tuscaloosa, Ala. In addition, the city's school board has officially adopted the project's practices on a systemwide basis and employs a resource teacher to help elementary teachers incorporate the practices into their teaching methods.

PEGASUS depends largely on two strategies: (1) accelerating children's reading achievements through a continuous learning plan for basic communication and reading skills and (2) using a differentiated staffing arrangement that includes aides and student teachers.

The project recognizes that learning is multidimensional, and places more emphasis on the progressive, continuous building of reading skills than on specific instructional materials. For this reason, PEGASUS reports its approach can be used with any basal series or other approach to reading instruction. Personal interaction between student and teacher is stressed; classroom organization or space requirements are not.

Specific reading skills are defined within 16 sequential elementary levels which make up the program's "Continuous Progress Reading Materials." Teachers determine the children's entry level in reading and communication skills and diagnose the skills in which instruction is needed. Children are grouped and subgrouped according to their established needs, and one-to-one instruction is provided as needed. Teachers conduct formative evaluation of specific skills and use a graphic chart to keep track of each student's mastery at a given level. Pre/post reading tests yield information to fulfill the program's summative evaluation requirements.

As a child masters the particular group of skills included in one level, he progresses to another. At level 4, for instance, a student must be able to demonstrate competency in performing 30 objectives which are organized in three skills areas: word analysis (basic vocabulary, phonetic analysis, structure analysis, word meaning and usage); comprehension (main idea, details, sequence and inference); and study skills (following directions, locating and organizing information, and oral and silent reading).

The project claims that one of its most important contributions to the effectiveness of the PEGASUS approach is the resource file of plans for skill development activities, which are organized for the rapid, average and slower attaining student. The activities have been developed by the teachers in accordance with the diagnosed needs of the students.

One performance objective for students at level 4 deals with putting words in A, B, C order. The activity developed by a teacher to build the student's confidence and proficiency in mastering this skill combines art, geography, history and local custom. Following a class discussion about the state of Hawaii, students make leis by pasting paper petals together. Each petal has a word printed on it, which the children must arrange in alphabetical order. Teachers evaluate the students' degree of mastery while they are performing the task as well as during a follow-up exercise requiring them to determine the correct alphabetical order of a mimeographed list of words.

Students also have a chance to combine fun with learning through contributions to their own periodical, "Let's Read Our Creative Writing." Even the first and second graders are encouraged to contribute stories, poems and artwork. The periodical is sent to parents as an informal means of sharing with them the reading-related activities in which their children are involved. Parents also are provided feedback on their children's progress through regularly scheduled conferences and a written report.

Staff Development

In PEGASUS, differentiated staffing occurs in terms of varying planning and coordinating responsibilities rather than in terms of teaching competency or practices. This means the roles played by certified and noncertified staff members undergo continual reassessment and refinement. Classroom aides, student teachers and other instructional personnel may move progressively upward on the career ladder.

In the target and satellite schools, serving students in grades 1-6, the project director is assisted by evaluators, curriculum associates, a reading resource analyst, administrative and secretarial personnel, and video technicians. The classroom instructional staff includes a coordinating teacher for each cluster of two grades, supported by teachers, associate and student teachers, an instructional aide and a clerical aide.

Training and retraining are required for all personnel. The project director, the evaluator and curriculum associates conduct summer workshops and weekly and half-day workshops during the school year. Through an informal arrangement with the University of Alabama, principals and teachers enroll in graduate-level classes in teacher education. Another aspect of staff development

involves each certified teacher, instructional aide and student teacher in self-assessment and cooperative assessment via videotaped micro-teaching segments.

Staff role definitions were refined as responsibilities were modified during the first two operational years. The project sees such change as a positive aspect of differentiated staffing, as well as a strategy for evolving a better program.

Another strategy has been the reevaluation of the Continuous Progress Reading Materials, resulting in major curriculum revision work by the project staff and a small group of teachers. The staff also replaced the first reading inventory with another commercial product which was modified to adapt it more closely to the instructional reading level of the project. The diagnostic materials were revised during 1972-73 and two junior high skill levels were added to the materials.

Evidence of Effectiveness

The project set the expected level of performance at a higher level of gain than achieved by children in the project schools in prior years. In the target school, 30 per cent of the first and second graders were expected to gain 1.8 years in grade placement or to score at least 1.0 year above their grade level. In fiscal 1972, 32 per cent of the children reached the goal, and in fiscal 1973, the figure jumped to 41 per cent. Students in the upper grade levels did even better. Thirty-five per cent of the grade 3-4 students and 45 per cent of those in grades 5-6 achieved the goal in 1972. In the following year, 41 per cent of the students in both grade levels met or exceeded the goal.

In the satellite schools, only 23 per cent of the first and second graders in 1972 met the 1.8 years' advancement goal. The following year, the figure dropped to 12 per cent. The project report says "a drastic population change" in September 1972 may be the reason. At that time, the school absorbed a number of children from an inner-city school.

Children in the upper grades of the satellite schools hit closer to the mark. In 1972, 32 per cent of the students in grades 3-4 and 28 per cent of those in grades 5-6 gained at least 1.8 years in grade placement. Comparable figures for 1973 were 38 per cent of the third and fourth graders and 48 per cent of the fifth and sixth graders.

Exportability

As far as costs are concerned, much of the development work has already been done. The Continuous Progress Reading Materials can be reproduced by mimeographing or offset printing. The materials can be keyed to any basal reader series and special reading teachers are not needed to put the PEGASUS approach into operation. On that basis, PEGASUS estimates developmental costs at approximately $159 per child, which includes the prototype models for instruction, staff development and community involvement. For the adopting school, the cost to initiate and develop the approach is estimated at $18 per child plus staff training. PEGASUS says adopting schools should plan to employ curriculum associates or resource teachers to ensure effective replication.

Kudos

PEGASUS proudly notes that it was one of two Title III projects chosen for an hour-long TV presentation on issues and innovations in Alabama education. Another plus is the high level of community support, due to the impact on students' reading. PEGASUS expects to continue to make a significant contribution to citywide instruction, even after Title III funds terminate. As an initial step in that direction, a continuing progress workshop for junior high school teachers in Tuscaloosa was supported through local instructional funds in August 1973.

One parent summarized the feeling of many in the community: "It (the project) shows a great advancement in children's education since I went to school, and I graduated in 1969."

FISCAL YEAR 1974 ALLOCATIONS
ELEMENTARY AND SECONDARY EDUCATION ACT, TITLE III

	State Allotment	Amounts Reserved for 303(c) Activities	85% States' Share		15% Commissioner's Share	
			Total for Grants to LEAs	15% for Handicapped	Total for Grants to LEAs	15% for Handicapped
U.S. and Outlying Areas	$ 146,168,000	$ 12,255,114	$ 113,825,953	$ 17,073,891	$ 20,086,933	$ 3,013,040
50 States and D.C.	141,782,960	11,835,720	110,455,154	16,568,271	19,492,086	2,923,812
Alabama	2,449,468	170,893	1,936,789	290,518	341,786	51,268
Alaska	539,162	150,000	330,788	49,618	58,374	8,756
Arizona	1,425,868	150,000	1,084,488	162,673	191,380	28,707
Arkansas	1,483,609	150,000	1,133,568	170,035	200,041	30,006
California	12,658,631	883,160	10,009,150	1,501,372	1,766,321	264,949
Colorado	1,670,727	150,000	1,292,618	193,893	228,109	34,216
Connecticut	2,119,208	150,000	1,673,827	251,074	295,381	44,307
Delaware	681,038	150,000	451,382	67,707	79,656	11,948
Florida	4,337,343	302,605	3,429,527	514,429	605,211	90,782
Georgia	3,168,026	221,025	2,504,951	375,743	442,050	66,308
Hawaii	809,352	150,000	560,449	84,067	98,903	14,835
Idaho	787,531	150,000	541,901	81,285	95,630	14,344
Illinois	7,241,045	505,189	5,725,478	858,822	1,010,378	151,557
Indiana	3,558,086	248,239	2,813,370	422,006	496,477	74,472
Iowa	2,028,533	150,000	1,596,753	239,513	281,780	42,267
Kansas	1,664,413	150,000	1,287,251	193,088	227,162	34,074
Kentucky	2,268,436	158,263	1,793,647	269,047	316,526	47,479
Louisiana	2,643,652	184,441	2,090,329	313,549	368,882	55,332
Maine	938,488	150,000	670,215	100,532	118,273	17,741
Maryland	2,729,393	190,423	2,158,124	323,719	380,846	57,127
Massachusetts	3,740,901	260,993	2,957,922	443,688	521,986	78,298
Michigan	6,026,892	420,481	4,765,449	714,817	840,962	126,144
Minnesota	2,707,542	188,898	2,140,847	321,127	377,797	56,670
Mississippi	1,726,634	150,000	1,340,139	201,021	236,495	35,474
Missouri	3,145,843	219,477	2,487,411	373,112	438,955	65,843
Montana	778,266	150,000	534,026	80,104	94,240	14,136
Nebraska	1,228,975	150,000	917,129	137,569	161,846	24,277
Nevada	638,079	150,000	414,867	62,230	73,212	10,982
New Hampshire	782,786	150,000	537,868	80,680	94,918	14,238
New Jersey	4,687,547	327,038	3,706,433	555,965	654,076	98,111
New Mexico	1,002,483	150,000	724,610	108,692	127,873	19,181
New York	11,317,079	789,564	8,948,388	1,342,258	1,579,127	236,869
North Carolina	3,445,821	240,406	2,724,603	408,690	480,812	72,122
North Dakota	731,658	150,000	494,409	74,161	87,249	13,087
Ohio	7,043,933	491,437	5,569,621	835,443	982,875	147,431
Oklahoma	1,833,574	150,000	1,431,038	214,656	252,536	37,880
Oregon	1,574,962	150,000	1,211,218	181,683	213,744	32,062
Pennsylvania	7,533,983	525,627	5,957,103	893,565	1,051,253	157,688
Rhode Island	885,353	150,000	625,050	93,758	110,303	16,545
South Carolina	1,933,956	150,000	1,516,363	227,454	267,593	40,139
South Dakota	759,238	150,000	517,852	77,678	91,386	13,708
Tennessee	2,685,524	187,362	2,123,438	318,516	374,724	56,209
Texas	7,439,733	519,051	5,882,580	882,387	1,038,102	155,715
Utah	1,018,080	150,000	737,868	110,680	130,212	19,532
Vermont	614,620	150,000	394,927	59,239	69,693	10,454
Virginia	3,155,554	220,155	2,495,089	374,263	440,310	66,046
Washington	2,373,199	165,572	1,876,483	281,472	331,144	49,672
West Virginia	1,368,140	150,000	1,035,419	155,313	182,721	27,408
Wisconsin	3,087,703	215,421	2,441,440	366,216	430,842	64,626
Wyoming	552,486	150,000	342,113	51,317	60,373	9,056
District of Columbia	760,407	150,000	518,846	77,827	91,561	13,734
American Samoa	188,128	50,000	117,409	17,611	20,719	3,108
Guam	262,424	50,000	180,560	27,084	31,864	4,780
Puerto Rico	3,144,654	219,394	2,486,471	372,971	438,789	65,818
Trust Territory	282,758	50,000	197,844	29,677	34,914	5,237
Virgin Islands	210,427	50,000	136,363	20,454	24,064	3,610
Bureau of Indian Affairs	296,649	–	252,152	37,823	44,497	6,675

1/ Administration of State Plan; obtaining assistance for State Advisory Council; evaluating and disseminating the program.

Information from U.S. Office of Education.

FY 1973 State Allotment	FY 1972 State Allotment	FY 1971 State Allotment	FY 1970 State Allotment	FY 1969 State Allotment	FY 1968 State Allotment	FY 1967 State Allotment	FY 1966 State Allotment
$ 171,168,000*	$ 146,248,000	$ 143,243,000	$ 116,393,000	$ 164, 876,000	$ 187,876,000	$ 135,000,000	$ 75,000,000
166,204,128	141,860,560	138,945,710	112,901,210	159,929,720	183,329,756	131,707,317	73,500,000
2,875,336	2,508,858	2,478,544	2,040,343	2,927,740	3,424,541	2,463,073	1,384,922
575,925	539,610	526,496	483,700	547,744	452,588	377,273	285,285
1,631,294	1,415,186	1,365,872	1,143,854	1,516,112	1 ,661,909	1,226,009	729,975
1,700,020	1,539,539	1,505,599	1,266,286	1,713,497	1,936,210	1,418,521	847,491
15,026,435	12,513,028	12,194,651	9,681,939	14,182,781	16,449,141	11,604,104	5,996,364
1,922,730	1,623,996	1,581,788	1,307,980	1,744,119	1,977,876	1,447,762	854,131
2,479,508	2,087,864	2,054,631	1,687,122	2,333,909	2,676,143	1,937,827	1,088,743
744,786	667,311	669,101	597,711	715,180	658,430	521,739	362,298
5,122,313	4,198,174	4,037,886	3,182,146	4,530,189	5,245,934	3,741,378	2,004,323
3,730,575	3,238,686	3,150,285	2,519,142	3,625,930	4,223,564	3,023,851	1,663,178
897,508	829,122	821,878	716,722	874,776	858,244	661,975	438,234
871,536	794,149	781,230	689,438	858,909	848,919	655,429	442,524
8,578,342	7,188,477	7,087,572	5,650,541	8,223,590	9,565,795	6,773,178	3,609,491
4,194,830	3,512,220	3,445,650	2,766,361	3,980,987	4,624,411	3,305,175	1,823,414
2,363,489	2,040,799	1,978,800	1,648,450	2,292,489	2,669,953	1,933,483	1,128,420
1,915,213	1,733,252	1,699,025	1,422,144	1,942,094	2,213,590	1,613,194	943,203
2,659,868	2,293,271	2,246,048	1,849,465	2,622,860	3,071,760	2,215,481	1,272,427
3,106,455	2,714,843	2,659,379	2,150,754	3,074,668	3,551,093	2,551,891	1,409,927
1,051,208	928,497	921,749	804,617	1,031,142	1,078,491	816,550	530,937
3,208,507	2,641,007	2,580,658	2,088,229	2,955,164	3,397,502	2,444,096	1,338,701
4,412,418	3,605,664	3,554,778	2,867,743	4,152,189	4,835,193	3,453,108	1,916,761
7,133,239	5,968,863	5,857,683	4,691,787	6,801,512	7,885,320	5,593,773	2,976,979
3,182,500	2,657,851	2,597,693	2,097,802	2,976,706	3,470,610	2,495,405	1,399,113
1,989,271	1,822,205	1,796,735	1,502,449	2,072,827	2,388,011	1,735,608	1,020,711
3,704,172	3,159,124	3,072,094	2,481,771	3,576,532	4,126,703	2,955,870	1,633,843
860,509	776,115	772,936	686,277	857,962	851,654	657,349	443,556
1,396,949	1,220,768	1,205,611	1,024,798	1,355,131	1,501,013	1,113,087	689,615
693,656	629,593	613,086	551,066	648,828	584,322	469,728	327,909
865,889	771,938	755,932	665,545	815,216	794,968	617,565	412,894
5,539,131	4,662,810	4,548,731	3,626,822	5,248,181	6,078,962	4,326,020	2,326,965
1,127,375	1,013,903	989,211	860,486	1,112,240	1,184,497	890,947	559,287
13,429,700	11,386,728	11,192,431	8,869,461	13,257,957	15,596,196	11,005,483	5,831,022
4,061,212	3,536,034	3,472,478	2,787,844	4,011,337	4,705,504	3,362,088	1,863,654
805,035	734,666	728,287	653,528	815,806	806,364	625,564	425,588
8,343,736	7,101,900	6,993,555	5,570,394	8,124,450	9,489,272	6,719,472	3,597,474
2,116,552	1,839,415	1,804,001	1,496,021	2,039,599	2,341,021	1,702,628	1,009,140
1,808,748	1,548,998	1,508,393	1,267,496	1,723,476	1,931,407	1,415,150	825,256
8,927,001	7,487,161	7,413,108	5,928,233	8,707,724	10,293,043	7,283,581	3,943,399
987,966	876,911	858,630	751,529	950,675	966,799	738,160	488,792
2,242,480	2,011,043	1,971,261	1,634,142	2,247,084	2,603,012	1,886,501	1,100,805
837,861	760,750	752,638	670,038	839,155	833,672	644,729	446,048
3,156,294	2,733,901	2,681,550	2,179,882	3,110,281	3,647,737	2,619,719	1,472,890
8,814,826	7,639,855	7,332,648	5,817,974	8,478,187	9,893,210	7,002,968	3,720,782
1,145,940	1,023,941	1,004,543	866,965	1,113,987	1,165,174	877,386	553,474
665,736	608,797	600,498	543,728	637,800	562,265	454,247	337,187
3,715,731	3,188,394	3,108,657	2,498,188	3,581,329	4,175,918	2,990,411	1,652,988
2,784,560	2,351,658	2,291,635	1,854,696	2,506,213	2,868,147	2,072,580	1,201,226
1,562,586	1,400,437	1,399,228	1,186,348	1,615,011	1,840,104	1,351,071	827,281
3,634,974	2,971,457	2,918,623	2,364,521	3,404,272	3,960,810	2,839,442	1,583,119
591,782	550,642	543,345	501,223	580,075	504,969	414,036	317,541
839,253	807,169	801,772	705,509	874,098	857,785	661,652	440,713
195,979	189,597	185,915	177,863	193,476	144,369	85,354	50,999
286,036	254,023	249,510	227,203	262,626	206,899	124,526	71,623
3,781,210	3,151,235	3,076,948	2,411,335	3,648,997	3,464,140	2,112,353	1,236,217
310,681	209,835	208,945	195,733	221,650	164,514	97,952	58,323
223,007	280,555	277,859	249,198	293,963	235,112	140,692	82,838
338,127	302,195	298,113	230,458	325,568	331,210	204,524	00

*Includes $25 million in Impounded Funds

Appendix

INDIVIDUALIZED INSTRUCTION

Parent-Partners Traineeship (PPT) Phyllis Hobson, Project Director, Maude Aiton Elementary School, 533 48th Place N.E., Washington, D.C. 20019. (202/396-4316; 629-6971).

A New Adventure in Learning (Grade level: K-3); June Johnson, Project Director, 2757 W. Pensacola St., Tallahassee, Fla. 32304. (904/877-8595).

Success in Mathematics Through Aural Reading Techniques (SMART) (Grade level: 5-6); Francis T. Sganga, Project Director, School Board of Volusia County, Box 1910, Daytona Beach, Fla. 32015. (904/255-6475).

Individually Prescribed Elementary Instruction Program (Grade level: 1-8); Ola R. Dupree, Project Director, P.O. Box 1227, Valdosta, Ga. 31601. (912/242-0986).

Curriculum Change Through Nongraded Individualization (Grade level: 5-9); Darrell Loosle, Project Director, Route 2, Box 294A, Blackfoot, Idaho 83221. (208/684-4450).

SOLVE (Grade level: K-12); Glendon C. Belden, Project Director, 37 Pleasant St., Concord, N.H. 03301. (603/224-9461).

Individualized Language Arts Diagnosis, Prescription and Evaluation (Grade level: K-12); Jeanette Alder, Project Director, Roosevelt School, Louisa Place, Weehawken, N.J. 07087. (201/865-2274).

Project Open Classroom Thelma Newman, Project Director, P.O. Box 1110, Wayne, N.J. 07470. (201/696-3363).

LEM—Learning Experience Module Eleanor Russo, Project Director, Fanny M. Hillers School, Longview Ave., Hackensack, N.J. 07601. (201/488-4100).

STAY: (School to Aid Youth) (Grade level: 1-3); Tom Butler, Project Director, 400 N. Broadway, Moore Public Schools, Moore, Okla. 73060. (405/794-6636).

A Systems Approach to Individualized Instruction W. Dale Fallow, Project Director, 310 San Francisco St., Grants Pass, Ore. 97526. (503/479-6433).

Alternate Learning Project (ALP) (Grade level: 9-12); Lawrence Paros, Project Director, 180-82 Pine St., Providence, R.I. 02903. (401/272-1450).

Project CAM—Concepts and Materials Lawrence T. Mello, Project Director, 321 E. Main Rd., Portsmouth, R.I. 02871. (401/846-7086).

Identification and Remediation-Learning Disabilities Robert R. Farrald and John D. Balfany, Project Directors, 701 South Western, Sioux Falls, S.D. 57104. (605/336-3096).

A Project to Develop and Test Follow-Through Techniques for Encouraging DSII Visitors to Initiate Individualized Instruction Programs after Visitation N. W. Kilgore, Project Director, Tyler Independent School District, P.O. Box 237, 1312 W. 8th St., Tyler, Tex. 75701. (214/597-5511).

Utah System Approach to Individualized Learning (Grade level: K-6); Carma M. Hales, Project Director, 1421 S. 2200 East, Salt Lake City, Utah 84108. (801/582-1344).

Project PLACE—Personalized Learning Activity Centers for Education (Grade level: K-6); Edwin L. Warehime, Project Director, 10th and Court Sts., Lynchburg, Va. 24504. (804/847-1364)

Reinforcing Personalized Instruction (Grade level: K-6); Paul Novak, Project Director, 436 E. 22nd Ave., Torrington, Wyo. 82240. (307/532-2643).

SPECIAL EDUCATION

Comprehensive Services for Children (Grade level: 1-6); Wayne E. Bradshaw, Project Director, Dothan City Schools, P.O. Box 1188, Dothan, Ala. 36301. (205/792-0077).

Focus on Preschool Developmental Problems (Age level: 3-5); Thomas Hockman, Project Director, Colorado Springs Public Schools, Department of Special Education, 1115 N. El Paso St., Colorado Springs, Colo. 80903. (303/633-8773).

Project 3R (Age level: 5-13); George Bondra, Project Director, Center School, East Granby, Conn. 06026. (203/653-2556).

Auditory Perceptual and Language Development Training Program (Grade level: 1-2); Elsie M. Geddes, Project Director, 1207 Fort St., Boise, Idaho 83702. (208/342-4543).

Individualized Multi-Sensory Approach to Learning Disabilities (Grade level: 9-11); J. Landis, Project Director, Lincoln Community High School, District #404, 1000 Primm Rd., Lincoln, Ill. 62656. (217/732-4131).

Early Prevention of School Failure (Grade level: kindergarten); Luceille Werner, Project Director, 114 N. 2nd St., Peotone, Ill. 60468. (312/258-3478).

Curriculum Prescription and Development for Handicapped Children in Ten Central Indiana School Corporations Rolla F. Pruett, Project Director, M.S.D. Wayne Township, Marion County, 1220 S. High School Rd., Indianapolis, Ind. 46241. (317/244-0401).

Re-Education for Emotionally Disturbed (Grade level: 1-6); Donald R. Alwes Sr., Project Director, Jefferson County Board of Education, 3332 Newburg Rd., Louisville, Ky. 40218. (502/425-9602).

Project Learning Disabilities—Early Identification and Intervention (Grade level: K-6); Nancy Hoepffner, Project Director, 1515 S. Salcedo St., New Orleans, La. 70125. (504/865-7781).

Early Intervention to Prevent Learning Problems (Grade level: K-1); Jewell Makolin, Project Director, Carroll County Board of Education, Box 500, Westminster, Md. 21157. (301/848-8280).

FAST—(Functional Systems Approach—Learning Disabilities) (Grade level: K-6); Herb Escott, Project Director, Essexville-Hampton School District, 303 Pine St., Essexville, Mich. 48732. (517/893-4533).

Special Education Cooperative (Grade level: K-12); Marvin D. Hammarback, Project Director, 119½ N. Broadway, Crookston, Minn. 56716. (218/281-2130).

Behavior Modification of Emotionally Disturbed Children (Grade level: 1-6); William L. Findley, Project Director, 801 2nd Ave. N., Great Falls, Mont. 59401. (406/761-5800).

Project Success for the SLD Child (Grade level: 1-6); Richard Metteer, Project Director, Wayne Public Schools, District 17, 611 W. 7th St., Wayne, Neb. 68787. (402/375-3854).

Engineered Classroom for Students Who Are Both Educable Handicapped and Behaviorally Maladaptive Stanley Wilcox, Project Director, Papillion Public

Schools, 130 W. 1st St., Papillion, Neb. 68046. (402/339-3411).

Learning Center: Integrated Alternative to Special Education (Age level: 5-13); John Jay McCool, Project Director, Winslow Township Board of Education, Central Ave., Blue Anchor, N.J. 08037. (609/561-4102).

Prescriptive Teaching Workshop (Grade level: 1-5); Joseph Romanko, Project Director, 309 South St., New Providence, N.J. 07974. (609/464-9450).

The Center for Multiple-Handicapped Children (Age level: 4-17); Edmund Horan, Project Director, 105 E. 106th St., New York, N.Y. 10029. (212/722-0605).

A Comprehensive Program for Severely Physically Handicapped (Grade level: elementary and secondary); Nicholas Zona, Project Director, 13 S. Fitzhugh St., Rochester, N.Y. 14614. (716/232-4860).

Program Models for EMR Students Thomas Noffsinger, Project Director, 7090 Hopkins Rd., Mentor, Ohio 44060. (216/255-6070).

Speech Tele-Van (Grade level: preschool-high school); Alan Olsen, Project Director, Marion Intermediate Education District, 681 Center St. N.E., Salem, Ore. 97301. (503/588-5330).

Modification of Children's Oral Language James D. Bryden, Project Director, Department of Communication Disorders, Bloomsburg State College, Bloomsburg, Pa. 17815. (717/389-2217).

Handicapped and Normal Children Learning Together (Grade level: K-6); Eben J. Robinson, Project Director, Brigadoon Elementary School, 3601 S.W. 336th St., Federal Way, Wash. 98002. (206/927-7712).

EARLY CHILDHOOD EDUCATION

Mother and Child Learning Team (Age level: 3-5); Servando B. Carrillo, Project Director, 2411 E. Buckeye Rd., Phoenix, Ariz. 85034. (602/273-1333).

ESEA Title III Parent-Child Mobile Classrooms (Age level: 3-4); Carrie B. Dawson, Project Director, School City of Gary, 620 E. 10th Place, Gary, Ind. 46402. (219/886-3111).

Insight Unlimited (Age level: preschool-secondary); Fred Glancy, Project Director, Delaware Community School Corp., Rural Route #3, Muncie, Ind. 47302. (317/288-5599).

Model Early Childhood Learning Program (Age level: 3-7); Alice Pinderhughes, Project Director, School 112A, Calvert and 23rd Sts., Baltimore, Md. 21218. (301/467-4000 x2112).

Parent Readiness Education Project Diane K. Bert, Project Director, Redford Union School District, 18499 Beech Daly Rd., Detroit, Mich. 48240. (313/535-2000 x201).

A Model Early Childhood Education Program (Age level: 4-5); Pam Whittington, Project Director, Box 771, New Albany, Miss. 38652. (601/534-7614).

Project SEE: Specific Education of the Eye (Grade level: preschool-5); Milton Knobler, Project Director, Union Township Board of Education, 2369 Morris Ave., Union, N.J. 07083. (201/688-1200).

SEARCH (Social and Economic Adjustment of Retarded Children) (Age level: 2-6); Ann L. Halstead, Project Director, 146 S. Catherine St., P.O. Box 925, Plattsburgh, N.Y. 12901. (518/561-1341).

East Harlem Home Pre-School Learning Program (Grade level: preschool); Shirley Munoz, Project Director, 174 E. 104th St., New York, N.Y. 10029. (212/427-6201).

Preschool Learning Adjustment Needs (Grade level: preschool); Richard L. Hills, Project Director, 1236 Napoleon St., Fremont, Ohio 43420. (419/334-2660).

Impact of a Pre-School and Interracial Program (Age level: 3-5); Judy Barg, Project Director, 230 E. 9th St., Cincinnati, Ohio 45202. (513/369-4000).

Helping Eliminate Early Learning Disabilities (Grade level: preschool); William B. Brewster, Project Director, 451 N. 2nd St., Central Point, Ore. 97501. (503/664-3341).

Early Childhood Education at Home (Grade level: preschool); Mary JoAnn Richards, Project Director, Regional Educational Service Agency, Region VIII, Curriculum Improvement Center, 615 W. King St., Martinsburg, W. Va. 25401. (304/263-8948).

ESEA TITLE III: Strategies in Early Childhood Education (Grade level: early primary); Robert Schramm, Project Director, Cooperative Educational Service Agency #13, 908 W. Main St., Waupun, Wis. 53963. (414/324-4461).

TEACHER/STAFF DEVELOPMENT

Creativity in the Classroom (Grade level: 2-12); Joan Avitabile, Project Director, 69 Grand Ave., New Haven, Conn. 06511. (203/562-0151 x238).

Training Center for Open Space Schools (Grade level: 4-13); Hattie H. Davis, Co-Project Director, 415 12th St., N.W., Washington, D.C. 20004. (202/638-6871).

Project Success Environment: An Approach to Community Education Improvement (Grade level: 1-8); Marion Thompson, Project Director, 892 Vedado Way, N.E., Atlanta, Ga. 30308. (404/874-5771).

Project League: Learner Guided Education (Grade level: K-6); Leslie C. Bernal, Project Director, 101 Mill Rd., Chelmsford, Mass. 01824. (617/246-3986).

A County Training Program in Behavior Modification (Grade level: K-12); Barbara Pentre & Hilde Weisert, Project Directors, Palisades Park Schools, 249 Leonia Ave., Bogota, N.J. 07603. (201/487-2707).

Interning for Learning (Grade level: K-8); Harry Brown, Project Director, Dennis Township Public Schools, Dennisville, N.J. 08214. (609/861-2821).

A Synthesis Approach to Teacher Self-Evaluation (Grade level: 6-8); William C. Moritz, Project Director, 2345 S. Detroit, Maumee, Ohio 43537. (419/893-4611).

Open Education (College-level teacher training); Robert J. Labriola, Project Director, Research and Learning Center, Millersville State College, Millersville, Pa. 17551. (717/872-5411 x652).

Project Secondary English—Teaching English to the Disadvantaged Student (Grade level: 7-12); Stuart R. Brown, Project Director, Box 1069, Lancaster, S.C. 29720. (803/283-4377).

Region XIII Education Service Center, Austin, Texas Joe Parks, Project Director, 6504 Tracor Lane, Austin, Tex. 78721. (512/926-8080).

Staff Development in Creativity (Grade level: 4-6); Edward Guziewski, Project Director, Oregon Consolidated Schools, 200 N. Main St., Oregon, Wis. 53575. (608/835-3161).

Interact Gregory McElwee, Project Director, Cedarburg Public Schools, 439 N. Evergreen Dr., Cedarburg, Wis. 53012. (414/377-4121).

In-Service Training for Teachers of Natural Sciences (Grade level: 1-9); Jesus Vega Martinez, Superintendent of Schools, Humacao, Puerto Rico. (809/852-1434).

ENVIRONMENTAL EDUCATION

Environmental Laboratory (Grade level: K-12); Hess G. Wilson, Project Director, Administration Bldg., Blount Rd., New Castle, Del. 19720. (302/328-7572).

Project ECO, An Environmental Curriculum Opportunity (Grade level: elementary and secondary); Luther Kiser, Project Director, 120 S. Kellogg, Ames, Iowa 50010. (515/232-3400).

Maine Environmental Education Project (Grade level: K-12); Dean B. Bennett, Project Director, Intermediate School, Yarmouth, Me. 04096. (207/846-3392).

Project Adventure (Grade level: high school); Robert R. Lentz, Project Director, 775 Bay Rd., Hamilton, Mass. 01936. (617/468-1766).

Environmental Ecological Education (EEE) (Grade level: K-12); Verlin M. Abbott, Project Director, Parkway School District, Administration Bldg., 455 N. Woods Mill Rd., Chesterfield, Mo. 63017. (314/434-8412).

The Pollution Control Education Center (Grade level: K-12); Charles Murphy, Project Director, Union Township Board of Education, 2369 Morris Ave., Union, N.J. 07083. (201/688-1200).

Southern Cayuga Atmospherium-Planetarium (Grade level: K-12); John A. Oliver, Project Director, Southern Cayuga Central, Poplar Ridge, N.Y. 13139. (315/364-7737).

The Interlakes Environmental and Outdoor Education Program (Grade level: K-8); Major L. Boddicker, Project Director, Chester Area Schools, No. 34, Chester, S.D. 57016. (605/489-2416).

ACADEMIC CURRICULUM

Decision Making Through Inquiry (Grade level: 1-6); Lucille K. Sherman, Project Director, Carrcroft Elementary School, Mount Pleasant School District, Wilmington, Del. 19803. (302/762-6110 x217).

Pre-Algebra Development Centers (Grade level: 9); Dorothy Strong, Project Director, Chicago School Board, 1750 E. 71st St., Chicago, Ill. 60649. (313/955-0600).

Design of Management-by-Objectives System for East Allen County Schools Daryl R. Yost and Julie Bauer, Project Directors, East Allen County Schools, 1240 U.S. 30 E., New Haven, Ind. 46774. (219/749-5143).

Comprehensive Curriculum and Staff Development Jack Neel, Project Director, Bowling Green Board of Education, 224 E. 12th St., Bowling Green, Ky. 42101. (502/745-2451).

Demonstration Evaluation Center (Grade level: 2-12); E. Daniel Eckberg, Project Director, Hopkins Schools, 1001 Highway #7, Hopkins, Minn. 55343. (612/935-5571).

Conceptually Oriented Mathematics Program (Grade level: 1-8). Alta M. Harness, Project Director, 310 N. Providence, Columbia, Mo. 65201. (314/443-4013).

MOPPET (Media Oriented Program Promoting Exploration in Teaching) (Grade level: K-6); Alfred Kohler, Project Director, Indiana Avenue School, Indiana Ave., Iselin, N.J. 08830. (201/283-0330).

Dale Avenue Urban Early Childhood Education Project (Grade level: preprimary and primary); Helen B. Hanson, Project Director, Dale Avenue School, 21 Dale Ave., Paterson, N.J. 07505. (201/271-3375).

Basic Skills Through Practical Arts (Grade level: K-8); Clayton R. Haynes, Project Director, 417 S. College St., Covington, Tenn. 38019. (901/476-5514).

LRC Computer Network (Grade level: secondary); Robert P. Perry, Project Director, Campus Box 16, Bluefield State College, Bluefield, W. Va. 24701. (304/327-5951).

Wyoming Model Laboratory Mathematics Project (WYMOLAMP) (Grade level: K-12); David Flory, Project Director, School District No. 25, 121 N. 5th St. W., Riverton, Wyo. 82501. (307/856-5102).

SPECIAL CURRICULUM AREAS

S.P.H.E.R.E. INC. David P. Kern, Project Director, 47 Vine St., Hartford, Conn. 06112. (203/525-3195).

Health and Optimum Physical Education (Grade level: 1-6); Martha F. Owens, Project Director, Box 141, Ocilla, Ga. 31774. (912/468-7098).

Media Now (Grade level: secondary); William Horner and Ron Curtis, Project Directors, Southwest Iowa Learning Resources Center, 401 Reed St., Red Oak, Iowa 51566. (712/623-4913).

Urban Arts Program (Grade level: 1-12); Wallace Kennedy, Project Director, Minneapolis Public Schools, Special School District #1, 807 N.E. Broadway, Minneapolis, Minn. 55413. (612/333-7625).

Education Services for Young Parents Anna F. Kelly, Family Learning Center, 225 Comstock St., New Brunswick, N.J. 08902. (201/247-2600).

Learner Orientation to Technology Walter Knipe, Project Director, 1224 Walnut St., Grand Forks, N.D. 58201. (701/772-6883).

Developing Curricula for Education of Youth in Meeting Modern Problems—The Constructive Control of Aggressive Behavior (Grade level: 1-12); John R. Rowe, Coordinator, 16600 Hilliard Rd., Lakewood, Ohio 44107. (216/579-4267).

Developing Curriculum for Education of Youth in Meeting Modern Problems (Grade level: K-12); William J. Parrish, Project Director, 348 W. 1st St., Dayton, Ohio 45402. (513/461-3350).

Laboratory Science Program in Clover (Grade level: 5-7); Sara Dillard, Project Director, Clover Middle School, Wilson St., Clover, S.C. 29710. (803/222-9503).

The Multi-Media Approach to Learning (Grade level: 7-8); Betty Martin, Project Director, 240 N. Pleasantburg Drive, Greenville, S.C. 29606. (803/242-6450).

Exploring Creative Frontiers Shirley C. Heim, Project Director, Route 2, Box 20-A, Stafford, Va. 22554. (703/659-3141 x9).

Occupational Versatility John Lavender, Project Director, Highline School District #401, 15675 Ambaum Blvd. S.W., Seattle, Wash. 98166. (206/433-2487).

READING

P E G A S U S — Personalized Educational Growth and Achievement: Selective Utilization of Staff Marie Sinclair, Project Director, Tuscaloosa City Schools, 1100 21st St. E., Tuscaloosa, Ala. 35401. (205/758-3845).

Early Childhood Preventive Curriculum Richard O. White, Project Director, School Board of Dade County, Lindsey Hopkins Education Center, 1410 N.E. 2nd Ave., Miami, Fla. 33132. (305/350-3354).

Summer Television Arithmetic and Reading (Grade level: 1-9); Jack W. Humphrey, Project Director, Evansville Vanderburgh School Corp., 1 S.E. Ninth St., Evansville, Ind. 47708. (812/426-5061).

Vocational Reading Power (Grade level: 11-12); Roy J. Butz, Project Director, Oakland Schools, 2100 Pontiac Lake Rd., Pontiac, Mich. 48054. (313/338-1011).

Project INSTRUCT (Grade level: K-3); Carl R. Spencer, Project Director, Lincoln Public Schools, 720 S. 22nd St., Lincoln, Neb. 68508. (402/475-1081).

Accountability in Primary Reading Education (Grade level: 1-3); Barbara Tapscott, Project Director, Burlington City Schools, 206 Fisher St., Burlington, N.C. 27215. (919/227-6251).

Measurable Extensions to Reading (Grade level: 5-8); Charles Cheney, Project Director, L. E. Berger Middle School, West Fargo, N.D. 58078. (701/282-0530).

Itinerancy of Specialized Educational Services for Low Social-Economic Deprived Areas in Ciales School District (Grade level: 1-12); Jose M. Sanchez Torres, Project Director, Department of Education, Avenue Teniente Gonzalez, Hato Rey, Puerto Rico. (809/871-3345).